YASKAWA
SOLECTRIA SOLAR

Commercial 1000VDC String Inverters

Solectria® PVI 25TL-208

Modbus Manual

Listing File Models: PVI 25TL-208

1. Change History

Date	DOCR version	Modification	LCD Version	DSP Version
2024 Jan 05	A	Creation of Modbus Document	V06.00	V01.05.00

2. DATA TYPES

2.1 Not Implemented Values

Leave unused or unsupported data points in the SOLECTRIA MODBUS protocol as the “Not Implemented” value specified in the model mapping. Here are the “Not Implemented” values for the following data types:

int8	0x80.
uint8	0xFF.
int16	0x8000.
uint16	0xFFFF.
int32	0x80000000.
uint32	0xFFFFFFFF.
string	0x00.

2.2 SOLECTRIA Units

Units and Scale Factors are defined by SOLECTRIA Units. As an alternative to floating point format, values are represented by integer values with a signed scale factor applied. For example:

Start	End	Size	R/W	Name	Type	SOLECTRIA Units	Contents	Description
0x001F	0x001F	1	RO	U_{ab}	uint16	0.1V		Grid voltage U_{ab}

The U_{ab} unit is V. If the current real-time value is U_{ab}=389.5V, the value U_{ab} in register 0x001F is 3895 decimal (0x0F37 hex). Thus, 0.1V indicates that the unit is V and the scale factor is 0.1, so the real-time value is 3895 * 0.1 =389.5.

2.3 Scale Factor

As an alternative to floating point format, values are represented by integer values with a signed scaled factor applied. The scale factor explicitly shifts the decimal point to the left (negative value) or the right (positive value). Scale factors had been fixed and specified in the documentation of a value. Scale factor signed range:-10----10. For example, see the table below:

Start	End	Size	R/W	Name	Type	Unit	Scale Factor	Description
0x001F	0x001F	1	RO	U_{ab}	uint16	V	-1	Grid voltage U_{ab}

The U_{ab} unit is V. If current real-time value is U_{ab}=389.5V, the value U_{ab} in register 0x001F is 3895 decimal (0x0F37 hex). Scale Factor is -1, which means to shift the decimal point to the left one space. Therefore the real-time value is 389.5.

2.4 Data Encoding

The MODBUS specification is not explicit on how to encode numbers other than 16-bit integers. Differences do exist between one manufacturer's implementation and another's.

2.4.1 32-bit Integer Value

Values are stored in big-endian order per the MODBUS specification and consist of a single register.

MODBUS Register	1		2	
byte	0	1	2	3
bits	31---24	23---16	15---8	7---0

2.4.2 64-bit Integer Value

64-bit integers are stored using for registers in big-endian order.

MODBUS Register	1		2	
byte	0	1	2	3
bits	63---56	55---48	47---40	39---32

MODBUS Register	3		4	
byte	4	5	6	7
bits	31---24	23---16	15---8	7---0

2.4.3 String Value

Store variable length string values in a fixed size register range using a NULL (0 value) to terminate or pad the string. For example, up to 14 characters can be stored in 7 contiguous registers as follows:

MODBUS Register	1		2		3		4		5		6		7	
byte	0	1	2	3	4	5	6	7	8	9	10	11	12	13
character	S	C	1	0	0	K	T	L	/	C	N	0	0	0

Not_Implemented value:all registers filled with 0x0000.

2.4.4 Basic Register Address

The basic register address is 0x0000.

3. Abbreviations

ADU Application Data Unit

IP Internet Protocol

MB MODBUS

MBAP MODBUS Application Protocol

PDU Protocol Data Unit

TCP Transport Control Protocol

uint8 unsigned char

uint16 unsigned int

uint32 unsigned long

Int8 signed char

int16 signed int

int32 signed long

4. Protocol Description

4.1 **Protocol Type:** Modbus RTU

4.2 **Communication Port Parameters**

BaudRate: optional

DataBits: 8

Parity: None

StopBit: 1

DTR: Disable

RTS: Disable

4.3 **Frame Format**

Start	Addr	Function Code	Data	CRC16	End
T1-T2-T3-T4	1Byte	1Byte	N	2Byte	T1-T2-T3-T4

5. Inverter Input Registers Data Mapping

The MODBUS read function code is 0x04, and the basic register address is 0x0000.

5.1 Input Registers Data Mapping

Start	End	Size	R/W	Name	Type	Solectria Units	Unit	Scale factor	Min value	Max value	Contents	Mode	Description
0x0000	0x0000	1	RO	Device	uint16	1	NULL	0	NULL	NULL	0x4031/ 0x4032 0x4033 0x4034	ALL	This register value represents the type of device. 0x4032 for 60kW inverter embedded with old MCU, 0x4034 for 60kW inverter embedded with new MCU, 0x403A is reserved
0x0001	0x0001	1	RO	Reserved	uint16	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL
0x0002	0x0002	1	RO	Reserved	uint16	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL
0x0003	0x0003	1	RO	RegNum	uint16	1	NULL	0	NULL	NULL	NULL	ALL	One register consists of 16-bits. 1. If device is 0x4031 or 0x4032: The number of readable registers(R/W=RO) supported by this device is counted from register ProVer to the last input register. 2. If device is 0x4033: The number of readable registers is counted from register 0x0600 to the last register of 0x06xx.
0x0004	0x0004	1	RO	ProVer	uint16	0.01	NULL	-2	NULL	NULL	NULL	ALL	This register represents the latest version of the protocol.

Start	End	Size	R/W	Name	Type	Solectria Units	Unit	Scale factor	Min value	Max value	Contents	Mode	Description
0x0005	0x0005	1	RO	MinorVer	uint16	0.01	NULL	-2	NULL	NULL	NULL	ALL	A manufacturer specific value that identifies the minor version of this device. This register represents the software version under this model. If the value of this register is 0xAABB, then AA represents the low byte of the software version of the DSP, and BB represents the low byte of the software version of the LCD. Remark: The register “MinorVer” is associated with the register” MajorVer”.
0x0006	0x0009	4	RO	SN	uint64	BCD	NULL	0	NULL	NULL	NULL	ALL	A manufacturer specific value that uniquely identifies this device within the manufacturer name space. The values of these four registers represent the serial number of the machine. Remark: The serial number is composed of 16 characters (8 bytes). The most significant 3 characters are not used, only

Start	End	Size	R/W	Name	Type	Solectria Units	Unit	Scale factor	Min value	Max value	Contents	Mode	Description
													the right 13 characters are used. For example: 0x0001010091114001 means the inverter serial number is 1010091114001
0x000a	0x0013	10	RO	model	string20	1	NULL	0	NULL	NULL	NULL	ALL	Identifies current model. The value of the register is a character type, e.g. PVI 25TL-208
0x0014	0x0014	1	RO	RWRegSum	uint16	1	NULL	0	NULL	NULL	NULL	ALL	number of R/W registers supported by this device
0x0015	0x0015	1	RO	RWRegAdd	uint16	1	NULL	0	NULL	NULL	0x1000	ALL	R/W register start address offset
0x0016	0x0017	2	RO	TYield	uint32	1kWh	kWh	0	0	NULL	NULL	ALL	Total energy to grid eg.0X01562318=22422296kWh, Register (addr 0X0016)=High 16 bit (data 0X0156) Register (addr 0X0017)=Low 16 bit (data 0X2318)
0x0018	0x0018	1	RO	DYield	uint16	0.1kWh	kWh	-1	0	NULL	NULL	ALL	The accumulated kWh of that day

Start	End	Size	R/W	Name	Type	Solectria Units	Unit	Scale factor	Min value	Max value	Contents	Mode	Description
0x0019	0x0019	1	RO	Eff	uint16	0.1%	%	-3	0	NULL	NULL	ALL	Inverter efficiency. If register value is 0x1F40, this means Eff=0x1F40 *0.0001=0.8=80%
0x001A	0x001A	1	RO	PF	int16	0.001	NULL	-3	NULL	NULL	NULL	ALL	Power factor. If register value is 0x0320, representing PF=0x0320 *0.001=0.8
0x001B	0x001B	1	RO	Pmax	uint16	0.1kW	kW	-1	NULL	NULL	NULL	ALL	Maximum AC active power of that day
0x001C	0x001C	1	RO	RunT	uint16	0.1Min	Min	-1	NULL	NULL	NULL	ALL	The cumulative run time from when inverter started feeding the grid that day.
0x001D	0x001D	1	RO	Pac	uint16	0.1kW	kW	-1	NULL	NULL	NULL	ALL	AC active power
0x001E	0x001E	1	RO	Sac	uint16	0.1kVA	kVA	-1	NULL	NULL	NULL	ALL	AC apparent power
0x001F	0x001F	1	RO	Uab	uint16	0.1V	V	-1	NULL	NULL	NULL	ALL	Grid voltage Uab
0x0020	0x0020	1	RO	Ubc	uint16	0.1V	V	-1	NULL	NULL	NULL	ALL	Grid voltage Ubc
0x0021	0x0021	1	RO	Uca	uint16	0.1V	V	-1	NULL	NULL	NULL	ALL	Grid voltage Uca
0x0022	0x0022	1	RO	Ia	uint16	0.1A	A	-1	NULL	NULL	NULL	ALL	Grid A phase current
0x0023	0x0023	1	RO	Ib	uint16	0.1A	A	-1	NULL	NULL	NULL	ALL	Grid B phase current
0x0024	0x0024	1	RO	Ic	uint16	0.1A	A	-1	NULL	NULL	NULL	ALL	Grid C phase current

Start	End	Size	R/W	Name	Type	Solectria Units	Unit	Scale factor	Min value	Max value	Contents	Mode	Description
0x0025	0x0025	1	RO	Upv1	uint16	0.1V	V	-1	NULL	NULL	NULL	ALL	PV voltage
0x0026	0x0026	1	RO	Ipv1	int16	0.1A	A	-1	NULL	NULL	NULL	ALL	PV current
0x0027	0x0027	1	RO	Upv2	uint16	0.1V	V	-1	NULL	NULL	NULL	ALL	PV2 voltage
0x0028	0x0028	1	RO	Ipv2	int16	0.1A	A	-1	NULL	NULL	NULL	ALL	PV2 current
0x0029	0x0029	1	RO	Upv3	uint16	0.1V	V	-1	NULL	NULL	NULL	ALL	PV3 voltage
0x002A	0x002A	1	RO	Ipv3	int16	0.1A	A	-1	NULL	NULL	NULL	ALL	PV3 current
0x002B	0x002B	1	RO	Freq	uint16	0.1Hz	Hz	-1	NULL	NULL	NULL	ALL	Grid frequency
0x002C	0x002C	1	RO	Tmod	int16	0.1C	C	-1	NULL	NULL	NULL	ALL	Heatsink temperature
0x002D	0x002D	1	RO	Tamb	int16	0.1C	C	-1	NULL	NULL	NULL	ALL	Ambient temperature
0x002E	0x002E	1	RO	Tcoil	int16	0.1C	C	-1	NULL	NULL	NULL	NULL	Transformer temperature
0x002F	0x002F	1	RO	Mode	uint16	1	NULL	0	NULL	NULL	NULL	ALL	Inverter mode code 0x8000: Fault 0x4000: Check 0x2000: Standby 0x1000: Running 0x0800: Derate

Start	End	Size	R/W	Name	Type	Solectria Units	Unit	Scale factor	Min value	Max value	Contents	Mode	Description
0x0030	0x0033	4	RO	Time	uint64	BCD	NULL	0	NULL	NULL	NULL	ALL	timestamp(yyyy-mm-dd-hh-mm-ss-NULL) of model,eg.0x2012071615181000=2012-7-16 15:18:10
0x0034	0x0034	1	RO	PFault	uint16	1	NULL	0	NULL	NULL	NULL	ALL	permanent fault code of model, for details see " **Inverter Events Descriptor**"
0x0035	0x0035	1	RO	Warn	uint16	1	NULL	0	NULL	NULL	NULL	ALL	warn code of model, for details see " **Inverter Events Descriptor**"
0x0036	0x0036	1	RO	Fault0	uint16	1	NULL	0	NULL	NULL	NULL	ALL	fault code0 of model, for details see " **Inverter Events Descriptor”**
0x0037	0x0037	1	RO	Fault1	uint16	1	NULL	0	NULL	NULL	NULL	ALL	fault code1 of model, for details see " **Inverter Events Descriptor**“
0x0038	0x0038	1	RO	Fault2	uint16	1	NULL	0	NULL	NULL	NULL	ALL	fault code2 of model, for details see " **Inverter Events Descriptor”**
0x0039	0x0039	1	RO	Fault3	uint16	1	NULL	0	NULL	NULL	NULL	ALL	fault code3of model, for details see " **Inverter Events Descriptor”**

Start	End	Size	R/W	Name	Type	Solectria Units	Unit	Scale factor	Min value	Max value	Contents	Mode	Description
0x003A	0x003A	1	RO	Fault4	uint16	1	NULL	0	NULL	NULL	NULL	ALL	fault code4 of model, for details see " **Inverter Events Descriptor"**
0x003B	0x003B	1	RO	Qac	int16	0.1kvar	kvar	-1	NULL	NULL	NULL	ALL	AC reactive power
0x003C	0x003C	1	RO	~~PIDboxEnable~~	~~Uint16~~	~~1~~	~~NULL~~	~~0~~	~~0~~	~~1~~	~~0:disable 1:enable~~	~~Pid-box enable or disable~~	~~PIDboxEnable~~
0x003D	0x003D	1	RO	~~PIDbox Voltage~~	~~Uint16~~	~~1V~~	~~NULL~~	~~0~~	~~-500~~	~~500~~	~~PIDbox voltage~~	~~Pid-box voltage value~~	~~PIDbox Voltage~~
0x003E	0x003E	1	RO	~~PIDbox Current~~	~~Uint16~~	~~1mA~~	~~NULL~~	~~0~~	~~0~~	~~3000~~	~~PIDbox current~~	~~Pid-box current value~~	~~PIDbox Current~~
0x003F	0x003F	1	RO	Reserved	uint16	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL
0x0040	0x0040	1	RO	Reserved	uint16	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL
0x0041	0x0041	1	RO	MajorVer	uint16	NULL	NULL	NULL	NULL	NULL	NULL	ALL	A manufacturer specific value that identifies the major

Start	End	Size	R/W	Name	Type	Solectria Units	Unit	Scale factor	Min value	Max value	Contents	Mode	Description
													version of this device. This register represents the software version under this model. If the value of this register is 0xAABB, then AA indicates DSP firmware revision, and BB indicates MCU firmware revision. Remark: The register "MinorVer" is associated with the register" MajorVer".
0x0042	0x0042	1	RO	PVdetection	uint16	NULL	NULL	NULL	0	16	NULL	ALL	If value is zero, this model doesn't have PV detection. Nonzero value means the number of input register from 0x0800 to 0x0822 and that this model has PV detection.
0x0043	0x0043	1	RO	BusCapacitance	int16	1uF	uF	0	NULL	NULL	NULL	ALL	Bus capacitance
0x0044	0x0044	1	RO	AcCapacitance	int16	1uF	uF	0	NULL	NULL	NULL	ALL	AC capacitance
0x0045	0x0045	1	RO	Pdc	uint16	0.1kW	kW	-1	NULL	NULL	NULL	ALL	PV input total power
0x0046	0x0046	1	RO	PmaxLim	uint16	1kW	kW	0	50	70	NULL	ALL	Maximum active power

Start	End	Size	R/W	Name	Type	Solectria Units	Unit	Scale factor	Min value	Max value	Contents	Mode	Description
0x0047	0x0047	1	RO	SmaxLim	uint16	1kVA	kVA	0	50	70	NULL	ALL	Maximum apparent power
0x0048	0x0048	1	RO	DspSafetyVer	uint16	NULL	NULL	NULL	NULL	NULL	NULL	ALL	DSP Security specification version number
0X0049	0X0049	1	RO	InverterState_1	uint16	NULL	NULL	NULL	NULL	NULL	NULL	CN	Not implemented
0X004A	0X004A	1	RO	InverterStateInfo_1	uint16	NULL	NULL	NULL	NULL	NULL	NULL	CN	Not implemented
0X004B	0X004B	1	RO	IPFSet	int16	0.001	NULL	-3	-1000 ~ -800	800~ 1000	NULL	ALL	Pf settings
0X004C	0X004C	1	RO	RemoteSetPCMD	uint16	0.1%	NULL	0	0	1100	NULL	ALL	Remote active set point
0X004D	0X004D	1	RO	RemoteSetQCMD	int16	0.1%	NULL	0	-660	660	NULL	ALL	Remote reactive set point

6. Inverter Holding Registers Mapping

The MODBUS read function code is 0x03 and write function code is 0x06.

6.1 **Holding Registers Mapping (For remote scheduling of power dispatching 0x1000 to 0x10FF)**

Start	End	Size	R/W	Name	Type	Solectria Units	Uint	Scale factor	Min value	Max value	Contents	Mode	Description
0x1000	0x1000	1	RW	OnOff	uint16	1	NULL	0	0x5555	0xAAAA	0x5555/ 0xAAAA	All	Device power on or off command: 0xAAAA power on, 0X5555 power off.
0x1001	0x1001	1	RW	PSet	uint16	0.1%	NULL	-3	0	1000	NULL	All	Remote electric dispatch Active Power setting value, range [0.0%,100.0%], E.g. 70.7%,then PSet =0x02c3
0x1002	0x1002	1	RW	PFSet	int16	0.001	NULL	-3	-1000 -800	800 1000	NULL	All	Remote electric dispatch Power factor Setting, Range [-1.000,-0.800]U[0.800, 1.000], E.g. 0.931, then PFSet =0X03A3；-0.931 PFSet =0xFC5D
0x1003	0x1003	1	RW	QSet	int16	0.1%	NULL	-1	-600	600	NULL	All	Remote electric dispatch Reactive Power setting value, range [-100.0%,100.0%], E.g. 70.7%,then QSet =0x02c3
0x1004	0x1007	4	RW	TimeSet	uint64	BCD	NULL	0	NULL	NULL	NULL	All	System time setting,format as :yyyy-mm-dd-hh-mm-ss-NUL, eg.0x2012071615181000=2012-7-16 15:18:10

Start	End	Size	R/W	Name	Type	Solectria Units	Uint	Scale factor	Min value	Max value	Contents	Mode	Description
0x1047	0x1047	1	RW	RemoteReactivePwModeSeclect	uint16	1	NULL	0	NULL	NULL	NULL	All	The reactive mode of Remote dispatch 0: None 1: dispatch(remote control) 2:Q (local EEPROM set) 3:PF (local EEPROM set) 4:PF(P) 5:Q(U)
0x105B	0x105B	1	R/W	ClearARCFault	UINT16	1	NULL	0	NULL	NULL	NULL	All	W: only can write 0xbbbb; R: 0xbbbb=ARC clear success; 0xaaaa = ARC clear failure; 0x5555 = clearing ARC; 0x0000 = no action about ARC
0x1066	0x1066	1	R/W	LCDAntiReflux	uint16	1s	s	0	0	255	NULL	NULL	Not Implemented LCD anti countercurrent communication delay 0=Disable Other values = Com delay time

6.2 Holding Registers Mapping

Assignment of Holding Register Groups

Address Range	Group Name
0x2000 ~ 0x20FF	Grid Protection Parameters
0x2100 ~ 0x21FF	Active Power Derating Parameters
0x2200 ~ 0x22FF	Reactive Power Derating Parameters
0x2300 ~ 0x23FF	Arc Detection Parameters
0x2400 ~ 0x24FF	LVRT/HVRT Parameters
0x2500 ~ 0x25FF	Others Parameters
0x2600 ~ 0x26FF	Enable/disable control Parameters
0x2700 ~ 0x27FF	Control Command
0x2800 ~ 0x28FF	Calibration
0x2900 ~ 0x29FF	Inverter Basic Information

Holding Registers Data Mapping

Start	End	Size	R/W	Name	Type	Solectria Units	Unit	Scale factor	Min value	Max value	Contents	Mode	Description
Group 0 Grid Protection Parameters													
0x2000	0x2000	1	RW	GridVoltMax1	uint16	0.01%	%	-2	10000	13500	NULL	All	The first maximum operational grid voltage
0x2001	0x2001	1	RW	VoltMaxTripT1	uint16	0.01s	s	-2	0	65500	NULL	All	The first maximum grid voltage trip time
0x2002	0x2002	1	RW	GridVoltMax2	uint16	0.01%	%	-2	10000	13500	NULL	All	The 2nd maximum operational grid voltage
0x2003	0x2003	1	RW	VoltMaxTripT2	uint16	0.01s	s	-2	0	65500	NULL	All	The 2nd maximum grid voltage trip time
0x2004	0x2004	1	RW	GridVoltMax3	uint16	0.01%	%	-2	10000	13500	NULL	All	The 3rd maximum operational grid voltage
0x2005	0x2005	1	RW	VoltMaxTripT3	uint16	0.01s	s	-2	0	65500	NULL	All	The 3rd maximum grid voltage trip time

Start	End	Size	R/W	Name	Type	Solectria Units	Unit	Scale factor	Min value	Max value	Contents	Mode	Description
0x2006	0x2006	1	RW	GridVoltMin1	uint16	0.01%	%	-2	3000	10000	NULL	All	The first minimum operational grid voltage
0x2007	0x2007	1	RW	VoltMinTripT1	uint16	0.01s	s	-2	0	65500	NULL	All	The first minimum grid voltage trip time
0x2008	0x2008	1	RW	GridVoltMin2	uint16	0.01%	%	-2	3000	10000	NULL	All	The 2nd minimum operational grid voltage
0x2009	0x2009	1	RW	VoltMinTripT2	uint16	0.01s	s	-2	0	65500	NULL	All	The 2nd minimum grid voltage trip time
0x200A	0x200A	1	RW	GridVoltMin3	uint16	0.01%	%	-2	3000	10000	NULL	All	The 3rd minimum operational grid voltage
0x200B	0x200B	1	RW	VoltMinTripT3	uint16	0.01s	s	-2	0	65500	NULL	All	The 3rd minimum grid voltage trip time
0x200C	0x200C	1	RW	VoltMax	uint16	0.01%	1%	-2	8000	13500	NULL	All	The upper limit grid voltage recovery

Start	End	Size	R/W	Name	Type	Solectria Units	Unit	Scale factor	Min value	Max value	Contents	Mode	Description
0x200D	0x200D	1	RW	VoltMin	uint16	0.01%	%	-2	2000	10000	NULL	All	The lower limit grid voltage recovery
0x200E	0x200E	1	RW	VoltRecoveryT	uint16	0.01s	s	-2	0	65500	NULL	All	The time of grid voltage recovery
0x200F	0x200F	1	RW	GridFrqMax1	uint16	0.01Hz	Hz	-2	5000 @50Hz 6000 @60Hz	5500@ 50Hz 6600@ 60Hz	NULL	All	The first maximum operational grid frequency
0x2010	0x2010	1	RW	FrqMaxTripT1	uint16	0.01s	s	-2	0	65500	NULL	All	The first maximum grid frequency trip time
0x2011	0x2011	1	RW	GridFrqMax2	uint16	0.01Hz	Hz	-2	5000 @50Hz 6000 @60Hz	5500@ 50Hz 6600@ 60Hz	NULL	All	The 2nd maximum operational grid frequency
0x2012	0x2012	1	RW	FrqMaxTripT2	uint16	0.01s	s	-2	0	65500	NULL	All	The 2nd maximum grid frequency trip time

Start	End	Size	R/W	Name	Type	Solectria Units	Unit	Scale factor	Min value	Max value	Contents	Mode	Description
0x2013	0x2013	1	RW	GridFrqMax3	uint16	0.01Hz	Hz	-2	5000 @50Hz 6000 @60Hz	5500@ 50Hz 6600@ 60Hz	NULL	All	The 3rd maximum operational grid frequency
0x2014	0x2014	1	RW	FrqMaxTripT3	uint16	0.01s	s	-2	0	65500	NULL	All	The 3rd maximum grid frequency trip time
0x2015	0x2015	1	RW	GridFrqMin1	uint16	0.01Hz	Hz	-2	4000 @50Hz 4800 @60Hz	5000@ 50Hz 6000@ 60Hz	NULL	All	The first minimum operational grid frequency
0x2016	0x2016	1	RW	FrqMinTripT1	uint16	0.01s	s	-2	0	65500	NULL	All	The first minimum grid frequency trip time
0x2017	0x2017	1	RW	GridFrqMin2	uint16	0.01Hz	Hz	-2	4000 @50Hz	5000@ 50Hz 6000@ 60Hz	NULL	All	The 2nd minimum operational grid frequency

Start	End	Size	R/W	Name	Type	Solectria Units	Unit	Scale factor	Min value	Max value	Contents	Mode	Description
									4800 @60Hz				
0x2018	0x2018	1	RW	FrqMinTripT2	uint16	0.01s	s	-2	0	65500	NULL	All	The 2nd minimum grid frequency trip time
0x2019	0x2019	1	RW	GridFrqMin3	uint16	0.01Hz	Hz	-2	4000 @50Hz 4800 @60Hz	5000@ 50Hz 6000@ 60Hz	NULL	All	The 3rd minimum operational grid frequency
0x201A	0x201A	1	RW	FrqMinTripT3	uint16	0.01s	s	-2	0	65500	NULL	All	The 3rd minimum grid frequency trip time
0x201B	0x201B	1	RW	FrqMax	uint16	0.01Hz	Hz	-2	4500 @50Hz 5400 @60Hz	5500@ 50Hz 6600@ 60Hz	NULL	All	The upper limit grid frequency recovery

Start	End	Size	R/W	Name	Type	Solectria Units	Unit	Scale factor	Min value	Max value	Contents	Mode	Description
0x201C	0x201C	1	RW	FrqMin	uint16	0.01Hz	Hz	-2	4000 @50Hz 4800 @60Hz	5000@ 50Hz 6000@ 60Hz	NULL	All	The lower limit grid frequency recovery
0x201D	0x201D	1	RW	FrqRecoveryT	uint16	0.01s	s	-2	0	65500	NULL	All	The time of grid frequency recovery
0x201E	0x201E	1	RW	VoltMax	uint16	0.01%	%	-2	10000	13500	NULL	All	The upper limit grid voltage of moving average filter
0x201F	0x201F	1	RW	MaxTripT	uint16	0.01s	s	-2	0	65500	NULL	All	The trip time of the upper limit grid voltage of moving average filter
0x2020	0x2020	1	RW	VoltMin	uint16	0.01%	%	-2	8000	10000	NULL	All	The lower limit grid voltage of moving average filter
0x2021	0x2021	1	RW	MinTripT	uint16	0.01s	s	-2	0	65500	NULL	All	The trip time of the lower limit grid voltage of moving average filter

Start	End	Size	R/W	Name	Type	Solectria Units	Unit	Scale factor	Min value	Max value	Contents	Mode	Description
0x2022	0x2022	1	NA	NULL	uint16	NULL	NULL	NULL	NULL	NULL	NULL	All	NA
0x2023	0x2023	1	RW	GridVoltUnbalance	uint16	0.01%	%	-2	1	1000	NULL	All	Unbalance rate of grid voltage
0x2024	0x2024	1	RW	Phase-PETripVolt	uint16	0.01%	%	-2	1	10000	NULL	All	The trip voltage of Phase-PE
0x2025	0x2025	1	RW	Phase-PERcvVolt	uint16	0.01%	%	-2	1	10000	NULL	All	The recovery voltage of Phase-PE
0x2024	0x20FE		NA	NULL	uint16	NULL	NULL	NULL	NULL	NULL	NULL	All	NULL
0x20FF	0x20FF	1	RO	AvaRegNumGP0	uint16	NULL	NULL	NULL	NULL	NULL	NULL	All	The available Register number in this group (Not implemented).
Group 1 Active Power Derating Parameters													
0x2101	0x2101	1	NA	Reserved	uint16	NULL	NULL	NULL	NULL	NULL	NULL	All	NA
0x2104	0x2104	1	RW	OvrFrqMin	uint16	0.01Hz	Hz	-2	5000 @50Hz	6000@ 50Hz	NULL	All	The trigger frequency of

Start	End	Size	R/W	Name	Type	Solectria Units	Unit	Scale factor	Min value	Max value	Contents	Mode	Description
									6000 @60Hz	7200@ 60Hz			OverFrequency derating
0x2105	0x2105	1	RW	OvrFrqMax	uint16	0.01Hz	Hz	-2	5000 @50Hz 6000 @60Hz	6000@ 50Hz 7200@ 60Hz	NULL	All	The end frequency or Rate of Overfrequency derating (Depends on specific grid standard)
0x2106	0x2106	1	RW	OvrFrqSlop	uint16	0.01%	%	-2	1	10000	NULL	All	The Rate of Overfrequency derating.
0x2107	0x2107	1	RW	RecoveryFrq	uint16	0.01Hz	Hz	-2	4900 @50Hz 5880 @60Hz	5500@ 50Hz 6600@ 60Hz	NULL	All	The recovery frequency of OverFrequency derating
0x2108	0x2108	1	RW	FreqDroopRecTms	uint16	1s	s	0	0	1200	NULL	All	The recovery time of OverFrequency derating

Start	End	Size	R/W	Name	Type	Solectria Units	Unit	Scale factor	Min value	Max value	Contents	Mode	Description
0x2109	0x2109	1	NA	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	All	NULL
0x210A	0x210A	1	NA	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	All	NULL
0x210B	0x210B	1	NA	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	All	NULL
0x210C	0x210C	1	NA	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	All	NULL
0x210D	0x210D	1	RW	VirtualDamping	uint16	0.001 Ω	Ω	-3	0	5000	NULL	All	Resonance damping coefficient
0x210E	0x210E	1	RW	OperationOverVol	uint16	0.01%	%	-2	10000	13500	NULL	All	Over Voltage Operate
0x210F	0x210F	1	NA	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	All	NULL
0x2110	0x2110	1	NA	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	All	NULL
0x2111	0x2111	1	RW	VwCurveV1	uint16	0.01%	%	-2	10500	10900	NULL	All	Grid overvoltage derating starting voltage V1

Start	End	Size	R/W	Name	Type	Solectria Units	Unit	Scale factor	Min value	Max value	Contents	Mode	Description
0x2112	0x2112	1	RW	VwCurveP1	uint16	0.1%	%	-1	0	1000	NULL	All	Grid overvoltage derating starting power P1
0x2113	0x2113	1	RW	VwCurveV2	uint16	0.01%	%	-2	10600	11000	NULL	All	Grid overvoltage derating end voltage V2
0x2114	0x2114	1	RW	VwCurveP2	uint16	0.1%	%	-1	0	1000	NULL	All	Grid overvoltage derating end power P2
0x2115	0x2115	1	RW	VwCurveRspTms	uint16	0.1s	s	-1	5	900	NULL	All	Open loop response time
0x2116	0x2116	NA	NA	Reserved	NA	NA	NA	NA	NA	NA	NA	All	Reserved
0X2117	0X2117	1	RW	FreqDroopDbOf	uint16	0.001 Hz	Hz	-3	0	1000	NULL	All	FreqDroopDbOf (relatedto 0x2916 register)
0X2118	0X2118	1	RW	FreqDroopDbUf	uint16	0.001 Hz	Hz	-3	0	1000	NULL	All	FreqDroopDbUf (relatedto 0x2916 register)
0X2119	0X2119	1	RW	FreqDroopKof	uint16	0.01	NULL	-2	2	10	NULL	All	FreqDroopKof (relatedto 0x2916 register)

Start	End	Size	R/W	Name	Type	Solectria Units	Unit	Scale factor	Min value	Max value	Contents	Mode	Description
0X211A	0X211A	1	RW	FreqDroopKuf	uint16	0.01	NULL	-2	2	10	NULL	All	FreqDroopKuf (relatedto 0x2916 register)
0X211B	0X211B	1	RW	FreqDroopRspTms	uint16	0.1s	s	-1	2	100	NULL	All	FreqDroopRspTms (relatedto 0x2916 register)
0x21FF	0x21FF	1	RO	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	All	The available Register number in this group (Not implemented).
Group 2 Reactive Power Derating Parameters													
0x2200	0x2200	1	RW	PFSetValue	uint16	0.001	NULL	-3	-1000 ~ -800	800 ~ 1000	NULL	All	Local Power Factor Setting
0x2201	0x2201	1	RW	PFpCurveP1	uint16	0.1%	%	-1	0	1100	NULL	All	Power of PF(P)Curve point 1
0x2202	0x2202	1	RW	PFpCurvePF1	uint16	0.001	NULL	-3	-1000 ~ -800	800 ~ 1000	NULL	All	PF of PF(P)Curve point 1
0x2203	0x2203	1	RW	PFpCurveP2	uint16	0.1%	%	-1	0	1100	NULL	All	Power of PF(P)Curve point 2

Start	End	Size	R/W	Name	Type	Solectria Units	Unit	Scale factor	Min value	Max value	Contents	Mode	Description
0x2204	0x2204	1	RW	PFpCurvePF2	uint16	0.001	NULL	-3	-1000 ~ -800	800 ~ 1000	NULL	All	PF of PF(P)Curve point 2
0x2205	0x2205	1	RW	PFpCurveTriVolt	uint16	0.01%	%	-2	10000	11000	NULL	All	The trigger voltage of PF(P)Curve
0x2206	0x2206	1	RW	PFpCurveUndoVolt	uint16	0.01%	%	-2	9000	10000	NULL	All	The end voltage of PF(P)Curve
0x2207	0x2207	1	RW	QuCurveU1	uint16	0.01%	%	-2	10000	11000	NULL	All	Voltage of Q(U)Curve point 1
0x2208	0x2208	1	RW	QuCurveQ1	uint16	0.1%	%	-1	-660	660	NULL	All	Reactive power of Q(U)Curve point 1
0x2209	0x2209	1	RW	QuCurveU2	uint16	0.01%	%	-2	10800	11000	NULL	All	Voltage of Q(U)Curve point 2
0x220A	0x220A	1	RW	QuCurveQ2	uint16	0.1%	%	-1	-660	660	NULL	All	Reactive power of Q(U)Curve point 2
0x220B	0x220B	1	RW	QuCurveU1i	uint16	0.01%	%	-2	9000	10000	NULL	All	Voltage of Q(U)Curve point 1i
0x220C	0x220C	1	RW	QuCurveQ1i	uint16	0.1%	%	-1	-660	660	NULL	All	Reactive power of Q(U)Curve point 1i

Start	End	Size	R/W	Name	Type	Solectria Units	Unit	Scale factor	Min value	Max value	Contents	Mode	Description
0x220D	0x220D	1	RW	QuCurveU2i	uint16	0.01%	%	-2	8000	10000	NULL	All	Voltage of Q(U)Curve point 2i
0x220E	0x220E	1	RW	QuCurveQ2i	uint16	0.1%	%	-1	-660	660	NULL	All	Reactive power of Q(U)Curve point 2i
0x220F	0x220F	1	RW	QuCurveTriPower	uint16	0.1%	%	-1	50	1000	NULL	All	The trigger power of Q(U)Curve
0x2210	0x2210	1	RW	QuCurveUndoPower	uint16	0.1%	%	-1	50	1000	NULL	All	The end power of Q(U)Curve
0x2211	0x2211	1	RW	Q(P)CurveP1	uint16	0.1%	%	-1	0	700	N/A	All	Q(P)CurveP1
0X2212	0X2212	1	RW	Q(P)CurveQ1	int16	0.1%	%	-1	-600	600	N/A	All	Q(P)CurveQ1
0X2213	0X2213	1	RW	Q(P)CurveP2	uint16	0.1%	%	-1	400	800	N/A	All	Q(P) CurveP2
0X2214	0X2214	1	RW	Q(P)CurveQ2	int16	0.1%	%	-1	-600	600	N/A	All	Q(P) CurveQ2

Start	End	Size	R/W	Name	Type	Solectria Units	Unit	Scale factor	Min value	Max value	Contents	Mode	Description
0X2215	0X2215	1	RW	Q(P)CurveP3	uint16	0.1%	%	-1	500	1000	N/A	All	Q(P) CurveP3
0X2216	0X2216	1	RW	Q(P)CurveQ3	int16	0.1%	%	-1	-600	600	N/A	All	Q(P) CurveQ3
0X2217	0X2217	1	RW	QpCurveOpenLoopRespTime	uint16	0.1S	S	-1	0	100	N/A	All	QpCurveOpenLoopRespTime
0X2218	0X2218	1	RW	QuCurveVref	uint16	0.01%	%	-2	9500	10500	NULL	All	QuCurveVref
0X2219	0X2219	1	RW	QuCurveVrefTms	uint16	1s	s	0	300	5000	NULL	All	QuCurveVrefTms
0X221A	0X221A	1	RW	QuCurveRspTms	uint16	0.1s	s	-1	10	900	NULL	All	QuCurveOLRT
0X221B	0X221B	1	RW	QuCurveVrefEn	uint16	NULL	NULL	NULL	0	1	NULL	All	QuCrvVreAdjst
0x22FF	0x22FF	1	RO	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	All	The available Register number in this group (Not implemented).
Group 3 ARC Parameters													

Start	End	Size	R/W	Name	Type	Solectria Units	Unit	Scale factor	Min value	Max value	Contents	Mode	Description
0x2300	0x2300	1	RW	Bandwidth1	uint16	1K	K	0	0	100	NULL	All	ArcFactoryB1
0x2301	0x2301	1	RW	StartFrq1	uint16	1K	K	0	0	100	NULL	All	ArcFactoryI1
0x2302	0x2302	1	RW	Proportion1	uint16	1	1	0	0	1000	NULL	All	ArcFactoryF1
0x2303	0x2303	1	RW	Filter1	uint16	1%	%	0	0	100	NULL	All	ArcFactoryD1
0x2304	0x2304	1	RW	Threshold1	uint16	1dB	dB	0	0	2000	NULL	All	ArcFactoryT1
0x2305	0x2305	1	RW	SigPerApdLmt1	uint16	1dB	dB	0	0	100	NULL	All	ArcFactoryC1
0x2306	0x2306	1	RW	Bandwidth2	uint16	1K	K	0	0	100	NULL	All	ArcFactoryB2
0x2307	0x2307	1	RW	StartFrq2	uint16	1K	K	0	0	100	NULL	All	ArcFactoryI2
0x2308	0x2308	1	RW	Proportion2	uint16	1	1	0	0	1000	NULL	All	ArcFactoryF2
0x2309	0x2309	1	RW	Filter2	uint16	1%	%	0	0	100	NULL	All	ArcFactoryD2

Start	End	Size	R/W	Name	Type	Solectria Units	Unit	Scale factor	Min value	Max value	Contents	Mode	Description
0x230A	0x230A	1	RW	Threshold2	uint16	1dB	dB	0	0	2000	NULL	All	ArcFactoryT2
0x230B	0x230B	1	RW	SigPerApdLmt2	uint16	1dB	dB	0	0	100	NULL	All	ArcFactoryC2
0x230C	0x230C	1	RW	Bandwidth1base	uint16	1K	K	0	0	100	NULL	All	Bandwidth1base
0x230D	0x230D	1	RW	Bandwidth2base	uint16	1K	K	0	0	100	NULL	All	Bandwidth2base
0x230E	0x230E	1	RW	Bandwidth1differ	uint16	1K	K	0	0	100	NULL	All	Bandwidth1differ
0x230F	0x230F	1	RW	Bandwidth2differ	uint16	1K	K	0	0	100	NULL	All	Bandwidth2differ
0x2310	0x2310	1	NA	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	All	NULL
0x2311	0x2311	1	NA	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	All	NULL
0x2312	0x2312	1	NA	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	All	NULL

Start	End	Size	R/W	Name	Type	Solectria Units	Unit	Scale factor	Min value	Max value	Contents	Mode	Description
0x2313	0x2313	1	NA	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	All	NULL
0x2314	0x23FE		NA	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	All	NULL
0x23FF	0x23FF	1	RO	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	All	The available Register number in this group (Not implemented).
Group 4 LVRT/HVRT													
0x2400	0x2400	1	RW	LVRTVolt1	uint16	0.01%	%	-2	0	10000	NULL	All	LVRTVoltPara1
0x2401	0x2401	1	RW	LVRTTime1	uint16	0.01s	S	-2	0	65500	NULL	All	LVRTTimePara1
0x2402	0x2402	1	RW	LVRTVolt2	uint16	0.01%	%	-2	0	10000	NULL	All	LVRTVoltPara2
0x2403	0x2403	1	RW	LVRTTime2	uint16	0.01s	S	-2	0	65500	NULL	All	LVRTTimePara2
0x2404	0x2404	1	RW	LVRTVolt3	uint16	0.01%	%	-2	0	10000	NULL	All	LVRTVoltPara3

Start	End	Size	R/W	Name	Type	Solectria Units	Unit	Scale factor	Min value	Max value	Contents	Mode	Description
0x2405	0x2405	1	RW	LVRTTime3	uint16	0.01s	S	-2	0	65500	NULL	All	LVRTTimePara3
0x2406	0x2406	1	RW	LVRTVolt4	uint16	0.01%	%	-2	0	10000	NULL	All	LVRTVoltPara4
0x2407	0x2407	1	RW	LVRTTime4	uint16	0.01s	S	-2	0	65500	NULL	All	LVRTTimePara4
0x2408	0x2408	1	RW	LVRTVolt5	uint16	0.01%	%	-2	0	10000	NULL	All	LVRTVoltPara5
0x2409	0x2409	1	RW	LVRTTime5	uint16	0.01s	S	-2	0	65500	NULL	All	LVRTTimePara5
0x240A	0x240A	1	RW	LVRTVolt6	uint16	0.01%	%	-2	0	10000	NULL	All	LVRTVoltPara6
0x240B	0x240B	1	RW	LVRTTime6	uint16	0.01s	S	-2	0	65500	NULL	All	LVRTTimePara6
0x240C	0x240C	1	RW	LVRTVolt7	uint16	0.01%	%	-2	0	10000	NULL	All	LVRTVoltPara7
0x240D	0x240D	1	RW	LVRTTime7	uint16	0.01s	S	-2	0	65500	NULL	All	LVRTTimePara7

Start	End	Size	R/W	Name	Type	Solectria Units	Unit	Scale factor	Min value	Max value	Contents	Mode	Description
0x240E	0x240E	1	RW	LVRTVolt8	uint16	0.01%	%	-2	0	10000	NULL	All	LVRTVoltPara8
0x240F	0x240F	1	RW	LVRTTime8	uint16	0.01s	S	-2	0	65500	NULL	All	LVRTTimePara8
0x2410	0x2410	1	RW	HVRTVolt1	uint16	0.01%	%	-2	10000	13500	NULL	All	HVRTVoltPara1
0x2411	0x2411	1	RW	HVRTTime1	uint16	0.01s	S	-2	0	65500	NULL	All	HVRTTimePara1
0x2412	0x2412	1	RW	HVRTVolt2	uint16	0.01%	%	-2	10000	13500	NULL	All	HVRTVoltPara2
0x2413	0x2413	1	RW	HVRTTime2	uint16	0.01s	S	-2	0	65500	NULL	All	HVRTTimePara2
0x2414	0x2414	1	RW	HVRTVolt3	uint16	0.01%	%	-2	10000	13500	NULL	All	HVRTVoltPara3
0x2415	0x2415	1	RW	HVRTTime3	uint16	0.01s	S	-2	0	65500	NULL	All	HVRTTimePara3
0x2416	0x2416	1	RW	HVRTVolt4	uint16	0.01%	%	-2	10000	13500	NULL	All	HVRTVoltPara4
0x2417	0x2417	1	RW	HVRTTime4	uint16	0.01s	S	-2	0	65500	NULL	All	HVRTTimePara4

Start	End	Size	R/W	Name	Type	Solectria Units	Unit	Scale factor	Min value	Max value	Contents	Mode	Description
0x2418	0x2418	1	RW	HVRTVolt5	uint16	0.01%	%	-2	10000	13500	NULL	All	HVRTVoltPara5
0x2419	0x2419	1	RW	HVRTTime5	uint16	0.01s	S	-2	0	65500	NULL	All	HVRTTimePara5
0x241A	0x241A	1	RW	HVRTVolt6	uint16	0.01%	%	-2	10000	13500	NULL	All	HVRTVoltPara6
0x241B	0x241B	1	RW	HVRTTime6	uint16	0.01s	S	-2	0	65500	NULL	All	HVRTTimePara6
0x241C	0x241C	1	RW	HVRTVolt7	uint16	0.01%	%	-2	10000	13500	NULL	All	HVRTVoltPara7
0x241D	0x241D	1	RW	HVRTTime7	uint16	0.01s	S	-2	0	65500	NULL	All	HVRTTimePara7
0x241E	0x241E	1	RW	HVRTVolt8	uint16	0.01%	%	-2	10000	13500	NULL	All	HVRTVoltPara8
0x241F	0x241F	1	RW	HVRTTime8	uint16	0.01s	S	-2	0	65500	NULL	All	HVRTTimePara8
0x2420	0x2420	1	NA	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	All	NULL

Start	End	Size	R/W	Name	Type	Solectria Units	Unit	Scale factor	Min value	Max value	Contents	Mode	Description
0x2421	0x2421	1	NA	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	All	NULL
0x2422	0x24FE		NA	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	All	NULL
0x24FF	0x24FF	1	RO	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	All	The available Register number in this group (Not implemented).
Group 5 Others Parameters													
0x2500	0x2500	1	RW	PowerOnDelay	uint16	1s	s	0	1	1200	NULL	All	Startup delay time
0x2501	0x2501	1	RW	PVStartupVolt	uint16	1V	V	0	300	400	NULL	All	PV start-up voltage
0x2502	0x2502	1	RW	PVSlowStartPwDelta	uint16	0.01%	%	-2	1	1000	NULL	All	Output power ramp rate with increased irradiance (Rule21)
0x2503	0x2503	1	RW	ErrSoftStartP	uint16	0.01%	%	-2	1	1000	NULL	All	Power startup ramp rate after Grid Fault
0x2504	0x2504	1	RW	NormSoftStopP	uint16	1s	s	0	1	1000	NULL	All	Normal power step in soft stop

Start	End	Size	R/W	Name	Type	Solectria Units	Unit	Scale factor	Min value	Max value	Contents	Mode	Description
0x2505	0x2505	1	RW	NormSoftStartP	uint16	1s	s	0	1	1000	NULL	All	Normal power step in soft startup
0x2506	0x2506	1	RW	NormDeratingStep	uint16	1s	s	0	1	1000	NULL	All	Normal power derating step
0x2507	0x2507	1	RW	StartUpMinTemp	uint16	0.1℃	℃	-1	-350	-200	NULL	All	The minimum startup temperature
0x2508	0x2508	1	RW	FaultPowerT	uint16	0.1℃	℃	0	950	950	NULL	All	The trigger temperature of module
0x2509	0x2509	1	RW	FaultEnvT	uint16	0.1℃	℃	0	830	830	NULL	All	The trigger temperature of environment
0x250A	0x250A	1	RW	HVRTTripVolt	uint16	0.1%	%	-1	1000	1350	NULL	All	The trigger voltage of HVRT
0x250B	0x250B	1	RW	LVRTTripVolt	uint16	0.1%	%	-1	700	1000	NULL	All	The trigger voltage of LVRT
0x250C	0x250C	1	RW	LVRTPstReactiveI	uint16	0.1%	%	-1	0	3000	NULL	All	The coefficient of positive sequence reactive current

Start	End	Size	R/W	Name	Type	Solectria Units	Unit	Scale factor	Min value	Max value	Contents	Mode	Description
0x250D	0x250D	1	RW	LVRTNegReactiveI	uint16	0.1%	%	-1	0	3000	NULL	All	The coefficient of negative sequence reactive current
0x250E	0x250E	1	RW	Percentage	uint16	0.1%	%	-1	0	1100	NULL	All	Local electric dispatch Active Power setting value
0x250F	0x250F	1	RW	Percentage	uint16	0.1%	%	-1	-660	660	NULL	All	Local electric dispatch Reactive Power setting value
0x2510	0x2510	1	RW	ISOProtection	uint16	1KΩ	KΩ	0	1	2000	NULL	All	Minimum insulation resistance
0x2511	0x2511	1	RW	GFCIStaticValue	uint16	1mA	mA	0	100	1000	NULL	All	The threshold value of Leakage current
0x2512	0x2512	1	RW	GFCIStaticT	uint16	0.01s	s	-2	0	65500	NULL	All	The upper limit of Leakage current
0x2513	0x2513	1	RW	GFCIDynProFactor	uint16	0.1%	%	-1	0	2000	NULL	All	The upper limit of Leakage current
0x2514	0x2514	1	RW	DCIProtection1	uint16	0.01%	%	-2	10	500	NULL	All	maximum DCI value1
0x2515	0x2515	1	RW	DCIProtectionT1	uint16	0.01s	s	-2	0	12000	NULL	All	Trip time 1 of DCI value

Start	End	Size	R/W	Name	Type	Solectria Units	Unit	Scale factor	Min value	Max value	Contents	Mode	Description
0x2516	0x2516	1	RW	DCIProtection2	uint16	1mA	A	-3	5	5000	NULL	All	maximum DCI value2
0x2517	0x2517	1	RW	DCIProtectionT2	uint16	0.01s	s	-2	0	12000	NULL	All	Trip time 2 of DCI value
0x2518	0x2518	1	RW	DuplicationControl	uint16	1%	%	0	0	100	NULL	All	Parameter of repetitive control
0x2519	0x2519	1	RW	MPPTScanPeriod	uint16	10s	s	1	30	540	NULL	All	MPPTScan Cycle
0x251A	0x051A	1	RW	CheckSumGroup1_6	uint16	0	0	0	NULL	NULL	NULL	All	CheckSum from group 1 to group 6 in EEPROM
0x251B	0x251B	1	RW	PhaseLoseCoeff	uint16	0.1%	%	0	5	300	NULL	All	PhaseLoseCoeff
0x251C	0x251C	1	RW	PhaseLoseRcvCoeff	uint16	0.1%	%	0	5	300	NULL	All	PhaseLoseRcvCoeff
0x251D	0x251D	1	RW	PhaseLoseVUnbalance	uint16	0.01%	%	-2	1	1000	NULL	All	PhaseLose Voltage Unbalance

Start	End	Size	R/W	Name	Type	Solectria Units	Unit	Scale factor	Min value	Max value	Contents	Mode	Description
0x251E	0x251E	1	RW	ReactiveStep	uint16	0.01%	%	-2	1	60000	NULL	All	Reactive Step
0x251F	0x251F	1	RW	PVSlowStartStep	uint16	0.01%	%	-2	1	10000	NULL	All	PVSlowStartStep
0x2520	0x2520	1	RW	Mppt1_OptVolLowLim	uint16	0.1V	V	-1	2000	15000	NULL	All	OptiVoltMinMppt1
0x2521	0x2521	1	RW	Mppt1_OptVolUpLim	uint16	0.1V	V	-1	2000	15000	NULL	All	OptiVoltMaxMppt1
0x2522	0x2522	1	RW	Mppt2_OptVolLowLim	uint16	0.1V	V	-1	2000	15000	NULL	All	OptiVoltMinMppt2
0x2523	0x2523	1	RW	Mppt2_OptVolUpLim	uint16	0.1V	V	-1	2000	15000	NULL	All	OptiVoltMaxMppt2
0x2524	0x2524	1	RW	Mppt3_OptVolLowLim	uint16	0.1V	V	-1	2000	15000	NULL	All	OptiVoltMinMppt3
0x2525	0x2525	1	RW	Mppt3_OptVolUpLim	uint16	0.1V	V	-1	2000	15000	NULL	All	OptiVoltMaxMppt3
0x2526	0x2539	20	NULL	Reserved	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	Reserved

Start	End	Size	R/W	Name	Type	Solectria Units	Unit	Scale factor	Min value	Max value	Contents	Mode	Description
0x253A	0x253A	1	RW	Antireflux(DSP)	uint16	0.01s	s	-2	50	6000	0.5s	NULL	NULL
0x25FF	0x25FF	1	RO	NULL	uint16	NULL	NULL	NULL	NULL	NULL	NULL	All	The available Register number in this group (Not implemented).
Group 6 Enable/disable control Parameters													
0x2600	0x2600	1	RW	CtrParaGroup	uint16	0	NULL	0	0	4	NULL	All	The enabled control parameters group.
0x2601	0x2601	1	RW	CtrMode	uint16	0	NULL	0	0	5	NULL	All	The control mode of reactive power 0: Disable dispatch mode. 1: Remote dispatch mode. 2: Local control ,by Q

Start	End	Size	R/W	Name	Type	Solectria Units	Unit	Scale factor	Min value	Max value	Contents	Mode	Description
													3: Local control ,by PF 4: PF(P)curve 5: Q(U) curve 6: Q(P) curve
0x2602	0x2602	1	RW	CtrMode	uint16	0	NULL	0	0	2	NULL	All	The control mode of active power 0: Disable dispatch mode. 1: Remote dispatch mode. 2: Local control.
0x2603	0x2603	1	RW	MPPTScanEn	uint16	0	NULL	1	0	1	NULL	All	MPPT scan enable/disable control

Start	End	Size	R/W	Name	Type	Solectria Units	Unit	Scale factor	Min value	Max value	Contents	Mode	Description
													0: Disable 1: Enable
0x2604	0x2604	1	RW	ARCEnable	uint16	0	NULL	1	0	1	NULL	All	Arc detection enable/disable control 0: Disable 1: Enable
0x2605	0x2605	1	NA	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	All	NA
0x2606	0x2606	1	NA	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	All	NA
0x2607	0x2607	1	RW	Island Protect	uint16	0	0	1	0	1	NULL	All	Island enable/disable control 0: Disable 1: Enable
0x2608	0x2608	1	RW	LVRTModeSetting	uint16	0	0	1	0	2	NULL	All	0: Disable

Start	End	Size	R/W	Name	Type	Solectria Units	Unit	Scale factor	Min value	Max value	Contents	Mode	Description
													1: Enable, no reactive power output 2: Enable, reactive power output
0x2609	0x2609	1	RW	HVRTModeSetting	uint16	0	0	1	0	2	NULL	All	0: Disable 1: Enable, no reactive power output 2: Enable, reactive power output
0x260A	0x260A	1	RW	NormSoftStopPEn	uint16	0	0	1	0	1	NULL	All	soft stop enable/disable control
0x260B	0x260B	1	RW	PID Check Settings	uint16	0	0	1	0	1	NULL	All	PID Checking enable/disable control
0x260C	0x260C	1	RW	GridVoltMax1En	uint16	0	0	1	0	1	NULL	All	Over grid voltage triggering enable/disable control

Start	End	Size	R/W	Name	Type	Solectria Units	Unit	Scale factor	Min value	Max value	Contents	Mode	Description
													0: Disable 1: Enable
0x260D	0x260D	1	RW	GridVoltMax2En	uint16	0	0	1	0	1	NULL	All	Over grid voltage triggering enable/disable control 0: Disable 1: Enable
0x260E	0x260E	1	RW	GridVoltMax3En	uint16	0	0	1	0	1	NULL	All	Over grid voltage triggering enable/disable control 0: Disable 1: Enable
0x260F	0x260F	1	RW	GridVoltMin1En	uint16	0	0	1	0	1	NULL	All	Under grid voltage triggering enable/disable control 0: Disable 1: Enable

Start	End	Size	R/W	Name	Type	Solectria Units	Unit	Scale factor	Min value	Max value	Contents	Mode	Description
0x2610	0x2610	1	RW	GridVoltMin2En	uint16	0	0	1	0	1	NULL	All	Under grid voltage triggering enable/disable control 0: Disable 1: Enable
0x2611	0x2611	1	RW	GridVoltMin3En	uint16	0	0	1	0	1	NULL	All	Under grid voltage triggering enable/disable control 0: Disable 1: Enable
0x2612	0x2612	1	RW	GridFrqMax1En	uint16	0	0	1	0	1	NULL	All	Over grid frequency triggering enable/disable control 0: Disable 1: Enable
0x2613	0x2613	1	RW	GridFrqMax2En	uint16	0	0	1	0	1	NULL	All	Over grid frequency triggering

Start	End	Size	R/W	Name	Type	Solectria Units	Unit	Scale factor	Min value	Max value	Contents	Mode	Description
													enable/disable control 0: Disable 1: Enable
0x2614	0x2614	1	RW	GridFrqMax3En	uint16	0	0	1	0	1	NULL	All	Over grid frequency triggering enable/disable control 0: Disable 1: Enable
0x2615	0x2615	1	RW	GridFrqMin1En	uint16	0	0	1	0	1	NULL	All	Under grid frequency triggering Enable/disable control 0: Disable 1: Enable
0x2616	0x2616	1	RW	GridFrqMin2En	uint16	0	0	1	0	1	NULL	All	Under grid frequency triggering

Start	End	Size	R/W	Name	Type	Solectria Units	Unit	Scale factor	Min value	Max value	Contents	Mode	Description
													enable/disable control 0: Disable 1: Enable
0x2617	0x2617	1	RW	GridFrqMin3En	uint16	0	0	1	0	1	NULL	All	Under grid frequency triggering enable/disable control 0: Disable 1: Enable
0x2618	0x2618	1	RW	VoltMaxMovAvgEn	uint16	0	0	1	0	1	NULL	All	Enable/disable control of limiting the upper of Moving average filter 0: Disable 1: Enable
0x2619	0x2619	1	RW	VoltMinMovAvgEn	uint16	0	0	1	0	1	NULL	All	Enable/disable control of limiting

Start	End	Size	R/W	Name	Type	Solectria Units	Unit	Scale factor	Min value	Max value	Contents	Mode	Description
													the lower of moving average filter 0: Disable 1: Enable
0x261A	0x261A	1	RW	GFCIStaticEn	uint16	0	0	1	0	1	NULL	All	GFCI static detection enable/disable control 0: Disable 1: Enable
0x261B	0x261B	1	RW	GFCIDynProEn	uint16	0	0	1	0	1	NULL	All	GFCI dynamic detection enable/disable control
0x261C	0x261C	1	RW	OvrFrqDeratingMode	uint16	0	0	1	0	1	NULL	All	Over frequency derating enable/disable control 0: Disable 1: Enable

Start	End	Size	R/W	Name	Type	Solectria Units	Unit	Scale factor	Min value	Max value	Contents	Mode	Description
0x261D	0x261D	1	RW	DCIProtection1En	uint16	0	0	1	0	1	NULL	All	DCI protection1 enable/disable control 0: Disable 1: Enable
0x261E	0x261E	1	RW	DCIProtection2En	uint16	0	0	1	0	1	NULL	All	DCI protection2 enable/disable control 0: Disable 1: Enable
0x261F	0x261F	1	RW	GridVoltUnbalanceEn	uint16	0	0	1	0	1	NULL	All	Unbalance rate of grid voltage detection Enable/disable control 0: Disable 1: Enable
0x2621	0x2621	1	RW	OvrVoltDerEn	uint16	0	0	1	0	1	NULL	All	Grid voltage derating

Start	End	Size	R/W	Name	Type	Solectria Units	Unit	Scale factor	Min value	Max value	Contents	Mode	Description
													enable/disable control 0: Disable 1: Enable
0x2622	0x2622	1	RW	PVSlowStartSEn（HECO）	uint16	0	0	1	0	1	NULL	All	Soft startup function after sudden change in power (HECO) 0: Disable 1: Enable
0x2623	0x2623	1	RW	ISOProtectionEn	uint16	0	0	1	0	1	NULL	All	ISO detection enable/disable control 0: Disable 1: Enable
0x2624	0x2624	1	RW	FANDetect	uint16	0	0	1	0	1	NULL	All	Fan detection enable/disable control 0: Disable

Start	End	Size	R/W	Name	Type	Solectria Units	Unit	Scale factor	Min value	Max value	Contents	Mode	Description
													1: Enable
0x2626	0x2626	1	RW	OperationOverVolEn	uint16	0	0	1	0	1	NULL	All	Operating overvoltage enable/disable control 0: Disable 1: Enable
0x2627	0x2627	1	RW	ActivePowerOver	uint16	0	0	0	0	1	NULL	All	Active overpower enable setting
0x2628	0x2628	1	RW	ReactivePowerOver	uint16	0	0	0	0	1	NULL	All	Reactive over-power enable setting
0x2629	0x2629	1	RW	ZigzagEN	uint16	0	0	0	0	2	NULL	All	PhaseLoss protection enable 0: Disable 1: Enable before the grid connection 2: Always enabled

Start	End	Size	R/W	Name	Type	Solectria Units	Unit	Scale factor	Min value	Max value	Contents	Mode	Description
													3: Enhanced (associated with Voltage unbalance)
0x262A	0x262A	1	RW	Phase-PEEnable	uint16	0	0	0	0	1	NULL	All	Phase-PE enable/disable control 0: Disable 1: Enable
0x262B	0x262B	1	RW	Reserved	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL
0x262C	0x262C	1	RW	RapidShutdownEnabBit	uint16	0	0	0	0	1	NULL	All	RapidShutdownEnabBit 0: Disable 1：Enable
0x262D	0x262D	1	RW	AntiRefluxEnable	uint16	0	0	0	0	1	NULL	All	0: Disable 1：Enable (Not Implemented)

Start	End	Size	R/W	Name	Type	Solectria Units	Unit	Scale factor	Min value	Max value	Contents	Mode	Description
0x2630	0x2648	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	All	NA
0X2649	0X2649	1	RW	QuCurveVrefAutoEn	Uint16	NULL	NULL	NULL	0	1	NULL	All	QuCurveVrefAutoEn 0=disable（default） 1=enable
0x26F0	0x26F0	1	RO	AvaRegNumGP6	uint16	0	0	0	NULL	NULL	NULL	All	The available Register number in this group (Not implemented).
0x26F1	0x26F1	1	RO	GP6RegAttriBitmask	NULL	NULL	NULL	NULL	NULL	NULL	NULL	All	Bit0:The access type of register “0x0600”
					NULL	NULL	NULL	NULL	NULL	NULL	NULL	All	Bit1: The access type of register “0x0601”
					NULL	NULL	NULL	NULL	NULL	NULL	NULL	All	Bit2: The access type of register “0x0602”

Start	End	Size	R/W	Name	Type	Solectria Units	Unit	Scale factor	Min value	Max value	Contents	Mode	Description
					NULL	NULL	NULL	NULL	NULL	NULL	NULL	All	Bit3~Bit15: The access type of register “0x0602”~“0x060F”
……			RO	ditto	NULL	NULL	NULL	NULL	NULL	NULL	NULL	All	NULL
0x26F2	0x26FF	1	RO	ditto	NULL	NULL	NULL	NULL	NULL	NULL	NULL	All	NULL
Group 7 Control Command													
0x2700	0x2700	1	RW	PowerOnOff	uint16	NULL	NULL	0	NULL	NULL	NULL	All	Power on or power off device command, 0x5555 power on，0x7777 power off
0x2701	0x2701	1	RW	ForceRestart	uint16	NULL	NULL	0	NULL	NULL	NULL	All	Device force restart command, valid value is 0x5AAA
0x2702	0x2702	1	RW	FactoryDefaults	uint16	NULL	NULL	0	NULL	NULL	NULL	All	Device factory reset command,

Start	End	Size	R/W	Name	Type	Solectria Units	Unit	Scale factor	Min value	Max value	Contents	Mode	Description
													valid value is 0x5AAA
0x2703	0x2703	1	RW	AutoTest(CEI)	uint16	NULL	NULL	0	NULL	NULL	NULL	All	Device auto test command, valid value is 0x5AAA
0x2704	0x2704	1	RW	MPPTScan	uint16	NULL	NULL	0	NULL	NULL	NULL	All	MPPT scan command, valid value is 0x5AAA
0x2705	0x2705	1	RW	ARCDetect	uint16	NULL	NULL	0	NULL	NULL	NULL	All	Arc Detection command, valid value is 0x5AAA
0x2706	0x2706	1	RW	ARCClear	uint16	NULL	NULL	0	NULL	NULL	NULL	All	Clear Arc alarm, valid value is 0x5AAA
0x2707	0x2707	1	RW	PFSetValueRemote	uint16	0.001	NULL	-3	-1000 ~ -800	800~ 1000	NULL	All	Remote electric dispatch Power Factor setting value
0x2708	0x2708	1	RW	PSetPercentRemote	uint16	0.1%	NULL	0	0	1100	NULL	All	Remote electric dispatch Active Power setting value

Start	End	Size	R/W	Name	Type	Solectria Units	Unit	Scale factor	Min value	Max value	Contents	Mode	Description
0x2709	0x2709	1	RW	QSetPercentRemote	uint16	0.1%	NULL	0	-660	660	NULL	All	Remote electric dispatch Reactive Power setting value
0x270A	0x270A	1	RW	FreqLv2PrtEn(CEI)	uint16	1	NULL	1	0	1	NULL	All	The 2nd frequency protection enable/disable control (CEI standard)
0x270B	0x27FE	NA	NA	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	All	NULL
0x27FF	0x27FF	1	RO	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	All	The available Register number in this group (Not implemented).
Group 9 Inverter Basic Information													
0x2900	0x2900	1	RO	MachineVersion	BCD	NULL	NULL	NULL	NULL	NULL	NULL	All	Machine Version
Group 9 Inverter Basic Information													
0x2900	0x2900	1	RO	MachineVersion	BCD	NULL	NULL	NULL	NULL	NULL	NULL	All	Machine Version

Start	End	Size	R/W	Name	Type	Solectria Units	Unit	Scale factor	Min value	Max value	Contents	Mode	Description
0x2901	0x2901	1	RO	DSPFWVersion	BCD	NULL	NULL	NULL	NULL	NULL	NULL	All	DSP App Firmware Version
0x2902	0x2902	1	RO	DSPFWChkSum	Hex	NULL	NULL	NULL	NULL	NULL	NULL	All	DSP App Firmware Code CheckSum
0x2903	0x2903	1	RO	BootFWVersion	BCD	NULL	NULL	NULL	NULL	NULL	NULL	All	DSP Boot Loader Firmware Version
0x2904	0x2904	1	RO	BootFWCodeChkSum	Hex	NULL	NULL	NULL	NULL	NULL	NULL	All	DSP Boot Loader Firmware Code CheckSum
0x2905	0x2905	1	RO	CPLDVersion	BCD	NULL	NULL	NULL	NULL	NULL	NULL	All	CPLD Version
0x2906	0x2906	1	RW	SN20~17	BCD	NULL	NULL	NULL	NULL	NULL	NULL	All	Serial number , as BCD code
0x2907	0x2907	1	RW	SN16~13	BCD	NULL	NULL	NULL	NULL	NULL	NULL	All	
0x2908	0x2908	1	RW	SN12~9	BCD	NULL	NULL	NULL	NULL	NULL	NULL	All	
0x2909	0x2909	1	RW	SN8~5	BCD	NULL	NULL	NULL	NULL	NULL	NULL	All	

Start	End	Size	R/W	Name	Type	Solectria Units	Unit	Scale factor	Min value	Max value	Contents	Mode	Description
0x290A	0x290A	1	RW	SN4~1	BCD	NULL	NULL	NULL	NULL	NULL	NULL	All	
0x290B	0x290B	1	RO	ProductCode	BCD	NULL	NULL	NULL	NULL	NULL	NULL	All	Product Code , as BCD code
0x290C	0x290C	1	RW	GridConnectionRule	Hex	NULL	NULL	NULL	NULL	NULL	NULL	All	Standard setting, see Standard Descriptor
0x290D	0x290D	1	RW	NeutralLineSetting	Hex	NULL	NULL	NULL	NULL	NULL	NULL	All	Neutral Line 0x5A5A：connected to N line 0xA5A5：not connected to N line
0x290E	0x290E	1	RW	PVInputMode	Hex	NULL	NULL	NULL	NULL	NULL	NULL	All	PV Link Status 0x5A5A：independent connection

Start	End	Size	R/W	Name	Type	Solectria Units	Unit	Scale factor	Min value	Max value	Contents	Mode	Description
													0xA5A5：parallel connection
0x290F	0x290F	1	RO	DSPSafetyFirmwareCodeCheckSum	Hex	NULL	NULL	NULL	0	0xFFFF	NULL	All	NULL
0x2910	0x2910	1	RO	miniMCUFirmwareVersion	BCD	NULL	NULL	NULL	NULL	NULL	NULL	All	NULL
0x2911	0x2911	1	RO	ThisFieldCheckSum	Hex	NULL	NULL	NULL	NULL	NULL	NULL	All	NULL
0x2912	0x2912	1	RO	DspSafetyVer	Hex	NULL	NULL	NULL	NULL	NULL	NULL	All	DSP Security specification version number
0x2913	0x2913	1	RO	Reserved	NULL	NULL	NULL	NULL	NULL	NULL	NULL	All	NULL
0x2914	0x2914	1	RO	Reserved	NULL	NULL	NULL	NULL	NULL	NULL	NULL	All	NULL
0x2915	0x2915	1	RO	Reserved	NULL	NULL	NULL	NULL	NULL	NULL	NULL	All	NULL
0x2916	0x2916	1	RO	RegUnitFlag1	Hex	NULL	NULL	NULL	NULL	NULL	NULL	All	0X0000 = 0.01s 0X0001 = 0.02s

Start	End	Size	R/W	Name	Type	Solectria Units	Unit	Scale factor	Min value	Max value	Contents	Mode	Description
													Associated time unit register address (0x201d, 0x201a, 0x2018, 0x2016, 0x2014, 0x2012, 0x2010)
0x2913	0x29FE		NA	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	All	NULL
Group 10 Auto Test Instruction													
0x2A00	0x2A00	1	WO	FactoryquickBoot	Uint16	NULL	NULL	NULL	NULL	NULL	NULL	Enable：0x5555 Disable：0x7777	0x2A00

Start	End	Size	R/W	Name	Type	Solectria Units	Unit	Scale factor	Min value	Max value	Contents	Mode	Description
0x2A01	0x2A01	1	WO	EnableSingleboardtestmode	Uint16	NULL	NULL	NULL	NULL	NULL	NULL	NULL	Enable: 0x5555 Disable 0x7777
0x2A02	0x2A02	1	WO	PWMControl	Uint16	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL
0x2A03	0x2A03	1	WO	GPIOControl_1	Uint16	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL
0x2A04	0x2A04	1	WO	GPIOControl_2	Uint16	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL
0x2A05	0x2A05	1	WO	TzClearInstruction	Uint16	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL
0x2A06	0x2A06	1	WO	MPPTSetPoint VoltSet_ALL	Uint16	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL
0x2A07	0x2A07	1	WO	MPPTSetPoint VoltSet_1	Uint16	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL
0x2A08	0x2A08	1	WO	MPPTSetPoint VoltSet_2	Uint16	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL
0x2A09	0x2A09	1	WO	MPPTSetPoint VoltSet_3	Uint16	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL

Start	End	Size	R/W	Name	Type	Solectria Units	Unit	Scale factor	Min value	Max value	Contents	Mode	Description
0x2A0A	0x2A0A	1	WO	MachineFactory calibrationEnable instruction	Uint16	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL
0x2A0B	0x2A0B	1	WO	OpenloopLoad TestInstruction	Uint16	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL
0x2A0C	0x2A0C	1	WO	FanControl Instruction When Testing	Uint16	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL
0x2A0D	0x2AFF		WO	Reserved	Uint16	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL
Group 11 LCDLess Basic Parameters													
0x2B0A	0x2B0A	1	RO	LcdlessBootFwChkCode	uint16	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL
0x2B0B	0x2B0B	1	RO	LcdlessAppFwChkCode	uint16	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL
0x2B0C	0x2B0C	1	RO	LcdBootVer	uint16	NULL	NULL	NULL	NULL	NULL	NULL	NULL	For example, when the register number

Start	End	Size	R/W	Name	Type	Solectria Units	Unit	Scale factor	Min value	Max value	Contents	Mode	Description
													is =0X1234, it means Ver=12.34.
0x2B0D	0x2B0D	1	RO	LcdAppVer	uint16	NULL	NULL	NULL	NULL	NULL	NULL	NULL	For example, when the register number is =0X1234, it means Ver=12.34.
0x2B0E	0x2B23	NULL	NULL	Reserved	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL
0x2B24	0x2B24	1	RO	FunctIvCve	uint16	NULL	NULL	NULL	NULL	NULL	NULL	NULL	0X0001= NoConfig 0X0002=HaveConfig
0x2B25	0x2B25	1	RO	FunctAutMdbsAdr	uint16	NULL	NULL	NULL	NULL	NULL	NULL	NULL	0X0001= NoConfig 0X0002=HaveConfig
0x2B26	0x2B26	1	RO	FunctFaultWave	uint16	NULL	NULL	NULL	NULL	NULL	NULL	NULL	0X0001= NoConfig 0X0002=HaveConfig

7. Input Registers Data Mapping

As with the holding register, the input register is allocated as a number of blocks according to the data type, and the address range of each block is as shown in the following table "Input register block address allocation table"; the parameter definition in each block And address assignments, as shown in the following table "Input Register Assignment Table". Use the 0x04 function code to read.

Input register block address allocation table

Address range	Data type
0x8000 ~ 0x80FF	Power grid state information data area.
0x8100 ~ 0x81FF	Inverter output status information data area.
0x8200 ~ 0x82FF	Inverter (PV) input state information data area.
0x8300 ~ 0x83FF	Internal state information data area of inverter.
0x8400 ~ 0x84FF	Inverter fault state information data area.
0x8500 ~ 0x85FF	Fault resolution information data area.

Input register allocation table

Start	End	Size	R/W	Name	Type	Solectria Units	Unit	Scale factor	Min value	Max value	Contents	Description
1. Power Grid State Information Data Area												
0x8000	0x8000	1	R	Uab	uint16	0.1 V	V	-1	NULL	NULL	NULL	NULL
0x8001	0x8001	1	R	Ubc	uint16	0.1 V	V	-1	NULL	NULL	NULL	NULL
0x8002	0x8002	1	R	Uca	uint16	0.1 V	V	-1	NULL	NULL	NULL	NULL
0x8003	0x8003	1	R	Ua	uint16	0.1 V	V	-1	NULL	NULL	NULL	NULL
0x8004	0x8004	1	R	Ub	uint16	0.1 V	V	-1	NULL	NULL	NULL	NULL
0x8005	0x8005	1	R	Uc	uint16	0.1 V	V	-1	NULL	NULL	NULL	NULL
0x8006	0x8006	1	R	FreqA	uint16	0.1Hz	HZ	-1	NULL	NULL	NULL	NULL

0x8007	0x8007	1	R	FreqB	uint16	0.1Hz	HZ	-1	NULL	NULL	NULL	NULL
0x8008	0x8008	1	R	FreqC	uint16	0.1Hz	HZ	-1	NULL	NULL	NULL	NULL
0x8009	0x8009	1	R	GridPhaseSequence	uint16	0: NA, 1: Positive,2: negative	NULL	NULL	NULL	NULL	NULL	NULL
0x800A	0x800A	1	R	GridVoltUnbalance	uint16	0.1%	%	-1	NULL	NULL	NULL	NULL
0x800B	0x800B	1	R	FreqT	uint16	0.1Hz	HZ	-1	NULL	NULL	NULL	NULL
0x800C	0x800C	1	R	NPEVolt	uint16	1V	V	1	NULL	NULL	NULL	NPEVolt
0x800D	0x800D	1	R	IaMcu	uint16	1A	A	1	NULL	NULL	NULL	NULL
0x800E	0x800E	1	R	IbMcu	uint16	1A	A	1	NULL	NULL	NULL	NULL
0x800F	0x800F	1	R	IcMcu	uint16	1A	A	1	0	0xFFFF	NULL	NULL
0x8010	0x8010	1	R	UaMcu	uint16	1V	V	1	NULL	NULL	NULL	NULL

0x8011	0x8011	1	R	UbMcu	uint16	1V	V	1	NULL	NULL	NULL	NULL
0x8012	0x8012	1	R	UcMcu	uint16	1V	V	1	NULL	NULL	NULL	NULL
0x8013	0x8013	1	R	Voltage harmonics(L1)	uint16	0.01%	%	-2	NULL	NULL	NULL	Voltage harmonics(L1)
0x8014	0x8014	1	R	Voltage harmonics(L2)	uint16	0.01%	%	-2	NULL	NULL	NULL	Voltage harmonics(L2)
0x8015	0x8015	1	R	Voltage harmonics(L3)	uint16	0.01%	%	-2	NULL	NULL	NULL	Voltage harmonics(L3)
0x8016	0x8016	1	R	Current harmonics(L1)	uint16	0.01%	%	-2	NULL	NULL	NULL	Current harmonics(L1)
0x8017	0x8017	1	R	Current harmonics(L2)	uint16	0.01%	%	-2	NULL	NULL	NULL	Current harmonics(L2)
0x8018	0x8018	1	R	Current harmonics(L3)	uint16	0.01%	%	-2	NULL	NULL	NULL	Current harmonics(L3)
0x8019 ~ 0x80FE	0x8019 ~ 0x80FE	1	R	Reserved area of power grid state information	uint16	NULL	NULL	NULL	NULL	NULL	NULL	NULL

0x80FF	0x80FF	1	R	The number of registers in this zone (temporarily not used)	uint16	Hex	Hex	**NULL**	NULL	NULL	NULL	NULL

2. Inverter Output Status Information Data Area

Start	End	Size	R/W	Name	Type	Solectria Units	Unit	Scale factor	Min value	Max value	Contents	Description
0x8100	0x8100	1	R	A phase current	uint16	0.1A	A	-1	NULL	NULL	NULL	NULL
0x8101	0x8101	1	R	B phase current	uint16	0.1A	A	-1	NULL	NULL	NULL	NULL
0x8102	0x8102	1	R	C phase current	uint16	0.1A	A	-1	NULL	NULL	NULL	NULL
0x8103	0x8103	1	R	Active power of A phase	uint16	0.1KW	KW	-1	NULL	NULL	NULL	NULL
0x8104	0x8104	1	R	Active power of B phase	uint16	0.1KW	KW	-1	NULL	NULL	NULL	NULL
0x8105	0x8105	1	R	Active power of C phase	uint16	0.1KW	KW	-1	NULL	NULL	NULL	NULL
0x8106	0x8106	1	R	3 phase total active power	uint16	0.1KW	KW	-1	NULL	NULL	NULL	NULL

0x8107	0x8107	1	R	Reactive power of A phase	int16	0.1KVar	KVar	-1	NULL	NULL	NULL	NULL
0x8108	0x8108	1	R	Reactive power of B phase	int16	0.1KVar	KVar	-1	NULL	NULL	NULL	NULL
0x8109	0x8109	1	R	Reactive power of C phase	int16	0.1KVar	KVar	-1	NULL	NULL	NULL	NULL
0x810A	0x810A	1	R	3 phase total reactive power	int16	0.1KVar	KVar	-1	NULL	NULL	NULL	NULL
0x810B	0x810B	1	R	A phase power factor	uint16	0.01	1	-2	NULL	NULL	NULL	NULL
0x810C	0x810C	1	R	B phase power factor	uint16	0.01	1	-2	NULL	NULL	NULL	NULL
0x810D	0x810D	1	R	C phase power factor	uint16	0.01	1	-2	NULL	NULL	NULL	NULL
0x810E	0x810E	1	R	Three phase power factor	int16	0.01	1	-2	NULL	NULL	NULL	NULL
0x810F	0x810F	1	R	Inverting A phase voltage	uint16	0.1V	V	-1	NULL	NULL	NULL	NULL
0x8110	0x8110	1	R	Inverting B phase voltage	uint16	0.1V	V	-1	NULL	NULL	NULL	NULL
0x8111	0x8111	1	R	Inverting C phase voltage	uint16	0.1V	V	-1	NULL	NULL	NULL	NULL

0x8112	0x8112	1	R	P Ref	uint16	0.1%	%	-1	NULL	NULL	NULL	P Ref
0x8113	0x8113	1	R	Q Ref	int16	0.1%	%	-1	NULL	NULL	NULL	If the value that the LCD gets from DSP is 0xaaaa, the LCD won't display this value.
0x8114	0x8114	1	R	PF Ref	NULL	0.001	1	-3	NULL	NULL	NULL	PF Ref
0x8115 ~ 0x81FE	0x8115 ~ 0x81FE	1	R	Reserved area of inverter output state information	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL
0x81FF	0x81FF	1	R	The number of registers in this zone (temporarily not used)	NULL	Hex	Hex	NULL	NULL	NULL	NULL	NULL

3. Inverter (PV) Input State Information Data Area

Start	End	Size	R/W	Name	Type	Solectria Units	Unit	Scale factor	Min value	Max value	Contents	Description
0x8200	0x8200	1	R	Pv Link Type	uint16	Parallel / independent	Parallel / independent	NULL	NULL	NULL	NULL	NULL

0x8201	0x8201	1	R	DC total input power	uint16	0.1KW	KW	-1	NULL	NULL	NULL	NULL
0x8202	0x8202	1	R	PV voltage1	uint16	0.1V	V	-1	NULL	NULL	NULL	NULL
0x8203	0x8203	1	R	PV current 1	int16	0.1A	A	-1	NULL	NULL	NULL	NULL
0x8204	0x8204	1	R	PV voltage 2	uint16	0.1V	V	-1	NULL	NULL	NULL	NULL
0x8205	0x8205	1	R	PV current 2	int16	0.1A	A	-1	NULL	NULL	NULL	NULL
0x8206	0x8206	1	R	PV voltage 3	uint16	0.1V	V	-1	NULL	NULL	NULL	NULL
0x8207	0x8207	1	R	PV current 3	int16	0.1A	A	-1	NULL	NULL	NULL	NULL
0x8208	0x8208	1	R	Boost1 Current	uint16	0.1A	A	-1	NULL	NULL	NULL	NULL
0x8209	0x8209	1	R	Boost2 Current	uint16	0.1A	A	-1	NULL	NULL	NULL	NULL
0x820A	0x820A	1	R	Boost3 Current	uint16	0.1A	A	-1	NULL	NULL	NULL	NULL
0x820B	0x820B	1	R	Boost4 Current	uint16	0.1A	A	-1	NULL	NULL	NULL	NULL

0x820C	0x820C	1	R	Boost5 Current	uint16	0.1A	A	-1	NULL	NULL	NULL	NULL
0x820D	0x820D	1	R	Boost6 Current	uint16	0.1A	A	-1	NULL	NULL	NULL	NULL
0x820E	0x820E	1	R	PV1 MPPT Current	uint16	0.1A	A	-1	NULL	NULL	NULL	NULL
0x820F	0x820F	1	R	PV2 MPPT2 Current	uint16	0.1A	A	-1	0	0xFFFF	NULL	NULL
0x8210	0x8210	1	R	PV3 MPPT Current	uint16	0.1A	A	-1	NULL	NULL	NULL	NULL
0x8211	0x8211	1	R	First line PV voltage curve 1-25 data	uint16	1V	V	1	NULL	NULL	NULL	25 16-bit data
0x8212	0x8212	1	R	First line PV voltage curve 26-50 data	uint16	1V	V	1	NULL	NULL	NULL	25 16-bit data
0x8213	0x8213	1	R	First line PV voltage curve 51-75 data	uint16	1V	V	1	NULL	NULL	NULL	25 16-bit data
0x8214	0x8214	1	R	First line PV voltage curve 76-100 data	uint16	1V	V	1	NULL	NULL	NULL	25 16-bit data
0x8215	0x8215	1	R	First line PV current curve 1-25 data	uint16	0.1A	A	-1	NULL	NULL	NULL	25 16-bit data
0x8216	0x8216	1	R	First line PV current curve 26-50 data	uint16	0.1A	A	-1	NULL	NULL	NULL	25 16-bit data

0x8217	0x8217	1	R	First line PV current curve 51-75 data	uint16	0.1A	A	-1	NULL	NULL	NULL	25 16-bit data
0x8218	0x8218	1	R	First line PV current curve 76-100 data	uint16	0.1A	A	-1	NULL	NULL	NULL	25 16-bit data
0x8219	0x8219	1	R	Second line PV voltage curve 1-25 data	uint16	1V	V	1	NULL	NULL	NULL	25 16-bit data
0x821A	0x821A	1	R	Second line PV voltage curve 26-50 data	uint16	1V	V	1	NULL	NULL	NULL	25 16-bit data
0x821B	0x821B	1	R	Second line PV voltage curve 51-75 data	uint16	1V	V	1	NULL	NULL	NULL	25 16-bit data
0x821C	0x821C	1	R	Second line PV voltage curve 76-100 data	uint16	1V	V	1	NULL	NULL	NULL	25 16-bit data
0x821D	0x821D	1	R	Second line PV current curve 1-25 data	uint16	0.1A	A	-1	NULL	NULL	NULL	25 16-bit data
0x821E	0x821E	1	R	Second line PV current curve 26-50 data	uint16	0.1A	A	-1	NULL	NULL	NULL	25 16-bit data
0x821F	0x821F	1	R	Second line PV current curve 51-75 data	uint16	0.1A	A	-1	NULL	NULL	NULL	25 16-bit data
0x8220	0x8220	1	R	Second line PV current curve 76-100 data	uint16	0.1A	A	-1	NULL	NULL	NULL	25 16-bit data
0x8221	0x8221	1	R	Third line PV voltage curve 1-25 data	uint16	1V	V	1	NULL	NULL	NULL	25 16-bit data

0x8222	0x8222	1	R	Third line PV voltage curve 26-50 data	uint16	1V	V	1	NULL	NULL	NULL	25 16-bit data
0x8223	0x8223	1	R	Third line PV voltage curve 51-75 data	uint16	1V	V	1	NULL	NULL	NULL	25 16-bit data
0x8224	0x8224	1	R	Third line PV voltage curve 76-100 data	uint16	1V	V	1	NULL	NULL	NULL	25 16-bit data
0x8225	0x8225	1	R	Third line PV current curve 1-25 data	uint16	0.1A	A	-1	NULL	NULL	NULL	25 16-bit data
0x8226	0x8226	1	R	Third line PV current curve 26-50 data	uint16	0.1A	A	-1	NULL	NULL	NULL	25 16-bit data
0x8227	0x8227	1	R	Third line PV current curve 51-75 data	uint16	0.1A	A	-1	NULL	NULL	NULL	25 16-bit data
0x8228	0x8228	1	R	Third line PV current curve 76-100 data	uint16	0.1A	A	-1	NULL	NULL	NULL	25 16-bit data
0x8229	0x8229	1	R	The first PV IV curve reads the data and completes the sign	uint16	NULL	NULL	NULL	NULL	NULL	NULL	The value of 3 means read completion
0x822A	0x822A	1	R	The second PV IV curve reads the data and completes the sign	uint16	NULL	NULL	NULL	0	0xFFFF	NULL	The value of 3 means read completion
0x822B	0x822B	1	R	The third PV IV curve reads the data and completes the sign	uint16	NULL	NULL	NULL	NULL	NULL	NULL	The value of 3 means read completion

0x822C	0x822C	1	R	The first road mppt scans the maximum power point power	uint16	0.1kw	KW	-1	NULL	NULL	NULL	NULL
0x822D	0x822D	1	R	The first road mppt scans the maximum power point voltage	uint16	1V	V	1	NULL	NULL	NULL	NULL
0x822E	0x822E	1	R	The second road mppt scans the maximum power point power	uint16	0.1kw	KW	-1	NULL	NULL	NULL	NULL
0x822F	0x822F	1	R	The second road mppt scans the maximum power point voltage	uint16	1V	V	1	NULL	NULL	NULL	NULL
0x8230	0x8230	1	R	The third road mppt scans the maximum power point power	uint16	0.1kw	KW	-1	NULL	NULL	NULL	NULL
0x8231	0x8231	1	R	The third road mppt scans the maximum power point voltage	uint16	1V	V	1	NULL	NULL	NULL	NULL
0x8232 ~ 0x82FE	0x8232 ~ 0x82FE	1	R	"PV input status information" reserved area	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL

0x82FF	0x82FF	1	R	The number of this area register (temporarily not used)	NULL	Hex	Hex	NULL	NULL	NULL	NULL	NULL
4. Inverter's Internal State Information Data Area												
Start	**End**	**Size**	**R/W**	**Name**	**Type**	**Solectria Units**	**Unit**	**Scale factor**	**Min value**	**Max value**	**Contents**	**Description**
0x8300	0x8300	1	R	Inverter operating mode	uint16	NULL	NULL	NULL	NULL	NULL	NULL	Refer to the table below
0x8301	0x8301	1	R	LCD switch machine command execution status feedback	uint16	NULL	NULL	NULL	NULL	NULL	NULL	If the LCD does not send a switch machine command, then reply 0xFFFF.
0x8302	0x8302	1	R	Module temperature	int16	0.1℃	℃	-1	NULL	NULL	NULL	NULL
0x8303	0x8303	1	R	Internal temperature	uint16	0.1℃	℃	-1	NULL	NULL	NULL	NULL
0x8304	0x8304	1	R	Insulation resistance detection（ISO）	uint16	1KΩ	KΩ	1	NULL	NULL	NULL	NULL
0x8305	0x8305	1	R	Leakage current detection value（GFCI）	uint16	1mA	mA	1	NULL	NULL	NULL	NULL
0x8306	0x8306	1	R	A phase DC component（DCI）	uint16	1mA	mA	1	NULL	NULL	NULL	NULL

0x8307	0x8307	1	R	B phase DC component（DCI）	uint16	1mA	mA	1	NULL	NULL	NULL	NULL
0x8308	0x8308	1	R	C phase DC component（DCI）	uint16	1mA	mA	1	NULL	NULL	NULL	NULL
0x8309	0x8309	1	R	Positive bus voltage	uint16	1V	V	1	NULL	NULL	NULL	NULL
0x830A	0x830A	1	R	Negative bus voltage	uint16	1V	V	1	NULL	NULL	NULL	NULL
0x830B	0x830B	1	R	Positive and negative bus voltage	uint16	1V	V	1	NULL	NULL	NULL	NULL
0x830C	0x830C	1	R	Start countdown	uint16	0.1s	s	-1	NULL	NULL	NULL	NULL
0x830D	0x830D	1	R	ISO sampling circuit detection voltage	uint16	1V	V	1	NULL	NULL	NULL	NULL
0x830E	0x830E	1	R	Bus capacitance	uint16	1uF	uF	1	NULL	NULL	NULL	NULL
0x830F	0x830F	1	R	AC capacitance	uint16	1uF	uF	1	0	0xFFFF	NULL	NULL
0x8310	0x8310	1	NULL	PermanentAbolition	uint16	NULL	NULL	NULL	NULL	NULL	NULL	NULL
0x8311	0x8311	1	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL

0x8312	0x8312	1	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL
0x8313	0x8313	1	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL
0x8314	0x8314	1	R	DeratingState	uint16	NULL	NULL	NULL	NULL	NULL	NULL	0：No derating 1：Self derating (For example: Over temperature derating) 2：Power limit derating (For example: Remote power dispatch derating)
0x8315	0x8315	1	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL
0x8316	0x8316	1	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL
0x8317	0x8317	1	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL
0x8318	0x8318	1	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL
0x8319	0x8319	1	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL
0x831A	0x831A	1	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL

0x831B	0x831B	1	NULL	PwrOnOffSta	uint16	NULL	NULL	NULL	NULL	NULL	NULL	PwrOnOffSta 1：Power on 0: Power off
0x831C	0x831C	1	NULL	Reserved	uint16	NULL	NULL	NULL	NULL	NULL	NULL	NULL
0x831D	0x831D	1	NULL	ACvoltrating	uint16	NULL	NULL	NULL	NULL	NULL	NULL	NULL
0x83FF	0x83FF	1	R	The number of this area register (temporarily not used)	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL

5. Inverter Fault State Information Data Area

Start	End	Size	R/W	Name	Type	Solectria Units	Unit	Scale factor	Min value	Max value	Contents	Description
0x8400	0x8400	1	R	Internal warning failure	uint16	HEX	HEX	NULL	NULL	NULL	NULL	Bit analysis, see the table.
0x8401	0x8401	1	R	Internal recoverable failure 1	uint16			NULL	NULL	NULL	NULL	
0x8402	0x8402	1	R	Internal recoverable failure 2	uint16			NULL	NULL	NULL	NULL	
0x8403	0x8403	1	R	Internal recoverable failure 3	uint16			NULL	NULL	NULL	NULL	

0x8404	0x8404	1	R	Internal recoverable failure 4	uint16			NULL	NULL	NULL	NULL	
0x8405	0x8405	1	R	Internal recoverable failure 5	uint16			NULL	NULL	NULL	NULL	
0x8406	0x8406	1	R	Internal permanent failure	uint16			NULL	NULL	NULL	NULL	
0x8407 ~ 0x84FE	0x8407 ~ 0x84FE	1	R	"Inverter fault status information" reserved area.	NULL	1mA	mA	NULL	NULL	NULL	NULL	NULL
0x84FF	0x84FF	1	R	The number of this area register (temporarily not used)	NULL	1mA	mA	NULL	NULL	NULL	NULL	NULL

6. Fault Resolution Information Data Area

Start	End	Size	R/W	Name	Type	Solectria Units	Unit	Scale factor	Min value	Max value	Contents	Description
0x8500	0x8500	1	R	Alarm resolution message number 1	uint16	NULL	NULL	NULL	NULL	NULL	NULL	Note:
0x8501	0x8501	1	R	Alarm resolution message data 1	int16	NULL	NULL	NULL	NULL	NULL	NULL	In order to read the operating information corresponding to a

0x8502	0x8502	1	R	Alarm resolution message number 2	uint16	NULL	NULL	NULL	NULL	NULL	NULL	fault, when a fault occurs, the operating information matching the fault must be stored and then transmitted to the LCD to facilitate on-site analysis of the cause of the fault. The specific data storage format is shown in the following attachment "60KW Software System Fault Information Compilation Instructions 20160330.doc". In the 485 protocol, the registers for transmitting data are 0x8500 ~ 0x85FF.
0x8503	0x8503	1	R	Alarm resolution message data 2	int16	NULL	NULL	NULL	NULL	NULL	NULL	
0x8504	0x8504	1	R	Alarm resolution message number 3	uint16	NULL	NULL	NULL	NULL	NULL	NULL	
0x8505	0x8505	1	R	Alarm resolution message data 3	int16	NULL	NULL	NULL	NULL	NULL	NULL	
0x8506	0x8506	1	R	Alarm resolution message number 4	uint16	NULL	NULL	NULL	NULL	NULL	NULL	
0x8507	0x8507	1	R	Alarm resolution message data 4	int16	NULL	NULL	NULL	NULL	NULL	NULL	
0x8508	0x8508	1	R	Alarm resolution message number 5	uint16	NULL	NULL	NULL	NULL	NULL	NULL	
0x8509	0x8509	1	R	Alarm resolution message data 5	int16	NULL	NULL	NULL	NULL	NULL	NULL	
0x850A	0x850A	1	R	Alarm resolution message number 6	uint16	NULL	NULL	NULL	NULL	NULL	NULL	
0x850B	0x850B	1	R	Alarm resolution message data 6	int16	NULL	NULL	NULL	NULL	NULL	NULL	
0x850C	0x850C	1	R	Alarm resolution message number 7	uint16	NULL	NULL	NULL	NULL	NULL	NULL	NULL

0x850D	0x850D	1	R	Alarm resolution message data 7	int16	NULL	NULL	NULL	NULL	NULL	NULL	NULL
0x850E	0x850E	1	R	Alarm resolution message number 8	uint16	NULL	NULL	NULL	NULL	NULL	NULL	NULL
0x850F	0x850F	1	R	Alarm resolution message data 8	int16	NULL	NULL	NULL	NULL	NULL	NULL	NULL
0x8510	0x8510	1	R	Alarm resolution message number 9	uint16	NULL	NULL	NULL	NULL	NULL	NULL	NULL
0x8511	0x8511	1	R	Alarm resolution message data 9	int16	NULL	NULL	NULL	NULL	NULL	NULL	NULL
0x8512	0x8512	1	R	Alarm resolution message number 10	uint16	NULL	NULL	NULL	NULL	NULL	NULL	NULL
0x8513	0x8513	1	R	Alarm resolution message data 10	int16	NULL	NULL	NULL	NULL	NULL	NULL	NULL
0x8514	0x8514	1	R	Recover fault resolution information number 1	uint16	NULL	NULL	NULL	NULL	NULL	NULL	NULL
0x8515	0x8515	1	R	Recover fault resolution information data 1	int16	NULL	NULL	NULL	NULL	NULL	NULL	NULL
0x8516	0x8516	1	R	Recover fault resolution information number 2	uint16	NULL	NULL	NULL	NULL	NULL	NULL	NULL
0x8517	0x8517	1	R	Recover fault resolution information data 2	int16	NULL	NULL	NULL	NULL	NULL	NULL	NULL

0x8518	0x8518	1	R	Recover fault resolution information number 3	uint16	NULL	NULL	NULL	NULL	NULL	NULL	NULL
0x8519	0x8519	1	R	Recover fault resolution information data 3	int16	NULL	NULL	NULL	NULL	NULL	NULL	NULL
0x851A	0x851A	1	R	Recover fault resolution information number 4	uint16	NULL	NULL	NULL	NULL	NULL	NULL	NULL
0x851B	0x851B	1	R	Recover fault resolution information data 4	int16	NULL	NULL	NULL	NULL	NULL	NULL	NULL
0x851C	0x851C	1	R	Recover fault resolution information number 5	uint16	NULL	NULL	NULL	NULL	NULL	NULL	NULL
0x851D	0x851D	1	R	Recover fault resolution information data 5	int16	NULL	NULL	NULL	NULL	NULL	NULL	NULL
0x851E	0x851E	1	R	Recover fault resolution information number 6	uint16	NULL	NULL	NULL	NULL	NULL	NULL	NULL
0x851F	0x851F	1	R	Recover fault resolution information data 6	int16	NULL	NULL	NULL	NULL	NULL	NULL	NULL
0x8520	0x8520	1	R	Recover fault resolution information number 7	uint16	NULL	NULL	NULL	NULL	NULL	NULL	NULL
0x8521	0x8521	1	R	Recover fault resolution information data 7	int16	NULL	NULL	NULL	NULL	NULL	NULL	NULL
0x8522	0x8522	1	R	Recover fault resolution information number 8	uint16	NULL	NULL	NULL	NULL	NULL	NULL	NULL

0x8523	0x8523	1	R	Recover fault resolution information data 8	int16	NULL	NULL	NULL	NULL	NULL	NULL	NULL
0x8524	0x8524	1	R	Recover fault resolution information number 9	uint16	NULL	NULL	NULL	NULL	NULL	NULL	NULL
0x8525	0x8525	1	R	Recover fault resolution information data 9	int16	NULL	NULL	NULL	NULL	NULL	NULL	NULL
0x8526	0x8526	1	R	Recover fault resolution information number 10	uint16	NULL	NULL	NULL	NULL	NULL	NULL	NULL
0x8527	0x8527	1	R	Recover fault resolution information data 10	int16	NULL	NULL	NULL	NULL	NULL	NULL	NULL
0x8528	0x8528	1	R	Permanent fault resolution information number 1	uint16	NULL	NULL	NULL	NULL	NULL	NULL	NULL
0x8529	0x8529	1	R	Permanent fault resolution information data 1	int16	NULL	NULL	NULL	NULL	NULL	NULL	NULL
0x852A	0x852A	1	R	Permanent fault resolution information number 2	uint16	NULL	NULL	NULL	NULL	NULL	NULL	NULL
0x852B	0x852B	1	R	Permanent fault resolution information data 2	int16	NULL	NULL	NULL	NULL	NULL	NULL	NULL

0x852C	0x852C	1	R	Permanent fault resolution information number 3	uint16	NULL	NULL	NULL	NULL	NULL	NULL	NULL
0x852D	0x852D	1	R	Permanent fault resolution information data 3	int16	NULL	NULL	NULL	NULL	NULL	NULL	NULL
0x852E	0x852E	1	R	Permanent fault resolution information number 4	uint16	NULL	NULL	NULL	NULL	NULL	NULL	NULL
0x852F	0x852F	1	R	Permanent fault resolution information data 4	int16	NULL	NULL	NULL	NULL	NULL	NULL	NULL
0x8530	0x8530	1	R	Permanent fault resolution information number 5	uint16	NULL	NULL	NULL	NULL	NULL	NULL	NULL
0x8531	0x8531	1	R	Permanent fault resolution information data 5	int16	NULL	NULL	NULL	NULL	NULL	NULL	NULL
0x8532	0x8532	1	R	Permanent fault resolution information number 6	uint16	NULL	NULL	NULL	NULL	NULL	NULL	NULL
0x8533	0x8533	1	R	Permanent fault resolution information data 6	int16	NULL	NULL	NULL	NULL	NULL	NULL	NULL

0x8534	0x8534	1	R	Permanent fault resolution information number 7	uint16	NULL	NULL	NULL	NULL	NULL	NULL	NULL
0x8535	0x8535	1	R	Permanent fault resolution information data 7	int16	NULL	NULL	NULL	NULL	NULL	NULL	NULL
0x8536	0x8536	1	R	Permanent fault resolution information number 8	uint16	NULL	NULL	NULL	NULL	NULL	NULL	NULL
0x8537	0x8537	1	R	Permanent fault resolution information data 8	int16	NULL	NULL	NULL	NULL	NULL	NULL	NULL
0x8538	0x8538	1	R	Permanent fault resolution information number 9	uint16	NULL	NULL	NULL	NULL	NULL	NULL	NULL
0x8539	0x8539	1	R	Permanent fault resolution information data 9	int16	NULL	NULL	NULL	NULL	NULL	NULL	NULL
0x853A	0x853A	1	R	Permanent fault resolution information number 10	uint16	NULL	NULL	NULL	NULL	NULL	NULL	NULL
0x853B	0x853B	1	R	Permanent fault resolution information data 10	int16	NULL	NULL	NULL	NULL	NULL	NULL	NULL

0x853C ~ 0x85FE	0x853C ~ 0x85FE	1	R	"Fault resolution information" reservation area	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL
0x85FF	0x85FF	1	R	The number of this area register (temporarily not used)	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL

7. Factory Production Test Data Area

Start	End	Size	R/W	Name	Type	Solectria Units	Unit	Scale factor	Min value	Max value	Contents	Description
0x8600	0x8600	1	R	Boost1 Current ADC	uint16	Hex	Hex	NULL	NULL	NULL	NULL	NULL
0x8601	0x8601	1	R	Boost2 Current ADC	uint16	Hex	Hex	NULL	NULL	NULL	NULL	NULL
0x8602	0x8602	1	R	Boost3 Current ADC	uint16	Hex	Hex	NULL	NULL	NULL	NULL	NULL
0x8603	0x8603	1	R	Boost4 Current ADC	uint16	Hex	Hex	NULL	NULL	NULL	NULL	NULL
0x8604	0x8604	1	R	Boost5 Current ADC	uint16	Hex	Hex	NULL	NULL	NULL	NULL	NULL

0x8605	0x8605	1	R	Boost6 Current ADC	uint16	Hex	Hex	NULL	NULL	NULL	NULL	NULL
0x8606	0x8606	1	R	PV1 Voltage ADC	uint16	Hex	Hex	NULL	NULL	NULL	NULL	NULL
0x8607	0x8607	1	R	PV2 Voltage ADC	uint16	Hex	Hex	NULL	NULL	NULL	NULL	NULL
0x8608	0x8608	1	R	PV3 Voltage ADC	uint16	Hex	Hex	NULL	NULL	NULL	NULL	NULL
0x8609	0x8609	1	R	Bus+ Voltage ADC	uint16	Hex	Hex	NULL	NULL	NULL	NULL	NULL
0x860A	0x860A	1	R	Bus- Voltage ADC	uint16	Hex	Hex	NULL	NULL	NULL	NULL	NULL
0x860B	0x860B	1	R	Grid_R Voltage ADC	uint16	Hex	Hex	NULL	NULL	NULL	NULL	NULL
0x860C	0x860C	1	R	Grid_S Voltage ADC	uint16	Hex	Hex	NULL	NULL	NULL	NULL	NULL
0x860D	0x860D	1	R	Grid_T Voltage ADC	uint16	Hex	Hex	NULL	NULL	NULL	NULL	NULL
0x860E	0x860E	1	R	Inv_R Voltage ADC	uint16	Hex	Hex	NULL	NULL	NULL	NULL	NULL
0x860F	0x860F	1	R	Inv_S Voltage ADC	uint16	Hex	Hex	NULL	NULL	NULL	NULL	NULL

0x8610	0x8610	1	R	Inv_T Voltage ADC	uint16	Hex	Hex	NULL	NULL	NULL	NULL	NULL
0x8611	0x8611	1	R	Inv_R Current ADC	uint16	Hex	Hex	NULL	NULL	NULL	NULL	NULL
0x8612	0x8612	1	R	Inv_S Current ADC	uint16	Hex	Hex	NULL	NULL	NULL	NULL	NULL
0x8613	0x8613	1	R	Inv_T Current ADC	uint16	Hex	Hex	NULL	NULL	NULL	NULL	NULL
0x8614	0x8614	1	R	Inv_DCI_R ADC	uint16	Hex	Hex	NULL	NULL	NULL	NULL	NULL
0x8615	0x8615	1	R	Inv_DCI_S ADC	uint16	Hex	Hex	NULL	NULL	NULL	NULL	NULL
0x8616	0x8616	1	R	Inv_DCI_T ADC	uint16	Hex	Hex	NULL	NULL	NULL	NULL	NULL
0x8617	0x8617	1	R	GFCI ADC	uint16	Hex	Hex	NULL	NULL	NULL	NULL	NULL
0x8618	0x8618	1	R	ISO ADC	uint16	Hex	Hex	NULL	NULL	NULL	NULL	NULL
0x8619	0x8619	1	R	NPEVolt ADC	uint16	Hex	Hex	NULL	NULL	NULL	NULL	NULL
0x861A	0x861A	1	R	Fault protection pin status (first group)	NULL	Hex	Hex	NULL	NULL	NULL	NULL	Corresponds to the status of the 16 input pins

											1：High，0：Low The assignment of specific Bit and DSP input pins is shown in Table 9-3 below
0x861B	0x861B	1	R	Fault protection pin status (second group)	NULL	Hex	Hex	NULL	NULL	NULL	NULL	Corresponds to the status of 16 input pins 1：High，0：Low The assignment of specific Bit and DSP input pins is shown in Table 9-3 below
0x861C	0x861C	1	R	Normal input pin status (first group)	NULL	Hex	Hex	NULL	NULL	NULL	NULL	Corresponds to the status of 16 input pins 1：High，0：Low The assignment of specific Bit and DSP input pins is shown in the "*Fault protection pin state analysis table*" below

0x861D	0x861D	1	R	Common input pin status (second group)	NULL	Hex	Hex	NULL	NULL	NULL	NULL	Corresponds to the status of 16 input pins 1：High，0：Low The assignment of specific Bit and DSP input pins is shown in the "*Fault protection pin state analysis table*" below
0x861E	0x861E	1	R	PV1_MPPT_Volt	uint16	Hex	Hex	NULL	NULL	NULL	NULL	NULL
0x861F	0x861F	1	R	PV2_MPPT_Volt	uint16	Hex	Hex	NULL	NULL	NULL	NULL	NULL
0x8620	0x8620	1	R	PV3_MPPT_Volt	uint16	Hex	Hex	NULL	NULL	NULL	NULL	NULL
0x8621	0x8621	1	R	PV1_Volt_Reference	uint16	Hex	Hex	NULL	NULL	NULL	NULL	NULL
0x8622	0x8622	1	R	PV2_Volt_Reference	uint16	Hex	Hex	NULL	NULL	NULL	NULL	NULL
0x8623	0x8623	1	R	PV3_Volt_Reference	uint16	Hex	Hex	NULL	NULL	NULL	NULL	NULL
0x8624	0x8624	1	R	PV1_Curr_Reference	uint16	Hex	Hex	NULL	NULL	NULL	NULL	NULL

0x8625	0x8625	1	R	PV2_Curr_Reference	uint16	Hex	Hex	NULL	NULL	NULL	NULL	NULL
0x8626	0x8626	1	R	PV3_Curr_Reference	uint16	Hex	Hex	NULL	NULL	NULL	NULL	NULL
0x8627	0x8627	1	R	BUS_Volt_Standard	uint16	Hex	Hex	NULL	NULL	NULL	NULL	NULL
0x8628	0x8628	1	R	BUS_Volt_Actual	uint16	Hex	Hex	NULL	NULL	NULL	NULL	NULL
0x8629	0x8629	1	R	MPPT1_Current ADC	uint16	Hex	Hex	NULL	NULL	NULL	NULL	NULL
0x862A	0x862A	1	R	MPPT2_Current ADC	uint16	Hex	Hex	NULL	NULL	NULL	NULL	NULL
0x862B	0x862B	1	R	MPPT3_Current ADC	uint16	Hex	Hex	NULL	NULL	NULL	NULL	NULL
0x862C ~ 0x86FE	0x862C ~ 0x86FE	1	R	"Factory production test data" reserved area	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL
0x86FF	0x86FF	1	R	The number of this area register (temporarily not used)	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL

Fault protection pin state analysis table

Status word	Status bit	Pin function description	State definition	Remarks
Fault protection Protect the pin status 1 （0x861A）	Bit0	Inverter current single-cycle block signal pin state	1：High(Fail)，0：Low	NULL
	Bit1	Inverter current Overcurrent protection signal pin status（Tz）	1：High(Fail)，0：Low	NULL
	Bit2	Boost Current Single-Cycle Blocking Signal Pin Status	1：High(Fail)，0：Low	NULL
	Bit3	Boost current overcurrent protection signal pin state（Tz）	1：High(Fail)，0：Low	NULL
	Bit4	Bus voltage Single cycle block the signal's pin state	1：High(Fail)，0：Low	NULL
	Bit5	Bus Overvoltage protection signal pin status（Tz）	1：High(Fail)，0：Low	NULL
	Bit6	The pin status of the IGBT fault signal（Tz）	1：High(Fail)，0：Low	NULL
	Bit7	NA	NULL	NULL
	Bit8	NA	NULL	NULL
	Bit9	NA	NULL	NULL
	Bit10	NA	NULL	NULL
	Bit11	NA	NULL	NULL
	Bit12	NA	NULL	NULL
	Bit13	NA	NULL	NULL

Status word	Status bit	Pin function description	State definition	Remarks
	Bit14	NA	NULL	NULL
	Bit15	NA	NULL	NULL
Fault protection Protect the pin status 2 （0x861B） （ Reserved for subsequent expansion ）	Bit0	NA	NULL	NULL
	Bit1	NA	NULL	NULL
	Bit2	NA	NULL	NULL
	Bit3	NA	NULL	NULL
	Bit4	NA	NULL	NULL
	Bit5	NA	NULL	NULL
	Bit6	NA	NULL	NULL
	Bit7	NA	NULL	NULL
	Bit8	NA	NULL	NULL
	Bit9	NA	NULL	NULL
	Bit10	NA	NULL	NULL
	Bit11	NA	NULL	NULL
	Bit12	NA	NULL	NULL
	Bit13	NA	NULL	NULL
	Bit14	NA	NULL	NULL
	Bit15	NA	NULL	NULL

General input pin state analysis table 9-4

Status word	Status bit	Pin function description	State definition	Remarks
Normal input pin status 1 （0x861C ）	Bit0	DC SPD status	1：High， 0：Low	NULL
	Bit1	AC MOV status	1：High， 0：Low	NULL
	Bit2	AC SPD status	1：High， 0：Low	NULL
	Bit3	IntFan status	1：High， 0：Low	NULL
	Bit4	ExtFan status	1：High， 0：Low	NULL
	Bit5	DrvRDY protection	1：High， 0：Low	NULL
	Bit6	NA	NULL	Unused bits, DSP software is forced to zero
	Bit7	NA	NULL	NULL
	Bit8	NA	NULL	NULL
	Bit9	NA	NULL	NULL
	Bit10	NA	NULL	NULL
	Bit11	NA	NULL	NULL
	Bit12	NA	NULL	NULL
	Bit13	NA	NULL	NULL
	Bit14	NA	NULL	NULL

Status word	Status bit	Pin function description	State definition	Remarks
	Bit15	NA	NULL	NULL
Normal input pin status 2 （0x861D） （Reserved for subsequent expansion）	Bit0	NA	NULL	NULL
	Bit1	NA	NULL	NULL
	Bit2	NA	NULL	NULL
	Bit3	NA	NULL	NULL
	Bit4	NA	NULL	NULL
	Bit5	NA	NULL	NULL
	Bit6	NA	NULL	NULL
	Bit7	NA	NULL	NULL
	Bit8	NA	NULL	NULL
	Bit9	NA	NULL	NULL
	Bit10	NA	NULL	NULL
	Bit11	NA	NULL	NULL
	Bit12	NA	NULL	NULL
	Bit13	NA	NULL	NULL
	Bit14	NA	NULL	NULL
	Bit15	NA	NULL	NULL

8. Inverter Events Descriptor

When one bit is set to "1", it indicates that the representative of the fault is occurring. If the bit is set to "0", it indicates that the representative of the fault has not occurred.

Fault code table

Register address	Storage data		LCD show	Fault description
0x0035	Warn	Bit15	External communication failed	Warn0150
		Bit14	Reserved	NULL
		Bit13	PVStrErr	1: PVStrErr 0:Normal
		Bit12	Pid Box communication fail	1:Pid Box CommErr 0:Normal (Not implemented)
		Bit11	Pid Box fail	1:Pid Box Err 0:Normal (Not implemented)
		Bit10	AC side MOV is abnormal	1:Warn0100 0:Normal
		Bit9	Reserved	NULL
		Bit8	Reserved	NULL
		Bit7	AC side surge arrester is abnormal	1:Warn0070 0:Normal
		Bit6	Reserved	NULL
		Bit5	Temperature sensor is abnormal	1:Warn0050 0:Normal
		Bit4	DC side surge protection device is abnormal	1:Warn0040 0:Normal

		Bit3	EEprom problem	1:Warn0030 0:Normal
		Bit2	Internal communication failed	1:CommErr 0:Normal
		Bit1	Internal fan alarm	1:IntFanErr 0:Normal
		Bit0	External fan alarm	1:ExtFanErr 0:Normal
0x0036	Fault0	Bit15	Inverter current bias	1:Protect0010 0:Normal
		Bit14	Over-temperature protection	1:TempOver 0:Normal
		Bit13	Grid relay protection	1:Protect0020 0:Normal
		Bi12	Out of phase	1:GridV.OutLim 0:Normal
		Bit11	Grid frequency is low	1:GridF.OutLim 0:Normal
		Bit10	Grid frequency is high	1:GridF.OutLim 0:Normal
		Bit9	High inverter current	1:Protect0030 0:Normal
		Bit8	Grid phase voltage overrun	1:GridV.OutLim 0:Normal
		Bit7	Power line voltage exceeds the limit	1:GridV.OutLim 0:Normal
		Bit6	PV1 high current	1:Protect0040

				0:Normal
		Bit5	Reserved	NULL
		Bit4	Inverter soft start overtime	1:Protect0050 0:Normal
		Bit3	Bus soft start overtime	1:Protect0060 0:Normal
		Bit2	Bus voltage difference is high	1:Protect0070 0:Normal
		Bit1	Reserved	NULL
		Bit0	Bus voltage and high	1:Protect0090 0:Normal
0x0037	Fault1	Bit15	Leakage current sensor is abnormal	1:Protect0100 0:Normal
		Bit14	Bus hardware overvoltage	1:Protect0110 0:Normal
		Bit13	Reserved	NULL
		Bit12	Power module protection	1:Protect0120 0:Normal
		Bit11	Inverter current imbalance	1:Protect0130 0:Normal
		Bit10	Reserved	NULL
		Bit9	Grid voltage is unbalanced	1:GridV.OutLim 0:Normal
		Bit8	Inverter hardware overcurrent	Protect0140
		Bit7	MCU protection	Protect0150
		Bit6	Reserved	NULL
		Bit5	Abnormal frequency selection	Protect0160

		Bit4	Leakage current is too high	GFCIErr
		Bit3	Insulation resistance is too low	IsolationErr
		Bit2	DCI current is too high	Protect0170
		Bit1	DCI current bias	Protect0180
		Bit0	Reserved	NULL
0x0038	Fault2	Bit15	Reserved	NULL
		Bit14	Reserved	NULL
		Bit13	Reserved	NULL
		Bi12	PV3 voltage is too high	PV3VoltOver
		Bit11	PV3 input reverse	PV3Reverse
		Bit10	PV1 voltage is too high	PV1VoltOver
		Bit9	PV1 input is reversed	PV1Reverse
		Bit8	Reserved	NULL
		Bit7	Power inverter open-loop self-test	Protect0230
		Bit6	PV source input is abnormal	1: Protect0260 0:Normal
		Bit5	PV2 voltage is too high	PV2VoltOver
		Bit4	PV2 input overcurrent	Protect0240
		Bit3	PV2 input is reversed	PV2Reverse
		Bit2	Reserved	NULL
		Bit1	Internal hardware error	Protect0210
		Bit0	Reserved	NULL
0x0039	Fault3	Bit15	ARC protection	ARCProtect
		Bit14	Reserved	NULL
		Bit13	Hardware driver power supply is abnormal	Protect0330
		Bi12	Reserved	NULL

		Bit11	Reserved	NULL
		Bit10	Reserved	NULL
		Bit9	Reserved	NULL
		Bit8	Reserved	NULL
		Bit7	Reserved	NULL
		Bit6	Reserved	NULL
		Bit5	Reserved	NULL
		Bit4	Reserved	NULL
		Bit3	Reserved	NULL
		Bit2	Reserved	NULL
		Bit1	Reserved	NULL
		Bit0	Reserved	NULL
0x003A	Fault4	Bit15	Phase-to-ground voltage anomaly protection	Protect0470
		Bit14	Reserved	NULL
		Bit13	Reserved	NULL
		Bi12	Reserved	NULL
		Bit11	Reserved	NULL
		Bit10	CPLD clock is abnormal	Protect0520
		Bit9	CPLD program version is abnormal	Protect0530
		Bit8	Abnormal product model	Protect0540
		Bit7	Bst hardware overcurrent	Protect0550
		Bit6	Control board voltage is low 3.3V	Protect0560
		Bit5	Capture PLL lock exception	Protect0570
		Bit4	PV3 input overcurrent	Protect0580
		Bit3	Battery overboard	Protect0590

		Bit2	Arc board failure	Arcboard Err
		Bit1	Steady-state GFCI protection	Protect0610
		Bit0	Control board voltage is low 5V	Protect0620
0x0034	PFault	Bit15	Control board voltage and drive power failure	Fault0160
		Bit14	Open-loop self-test failed failure	Fault0150
		Bit13	Internal hardware failure	Fault0140
		Bit12	Permanent power module failure	Fault0010
		Bit11	Bus hardware overvoltage fault	Fault0020
		Bit10	Reserved	Fault0030
		Bit9	Reserved	Fault0040
		Bit8	Inverter hardware overcurrent fault	Fault0050
		Bit7	CPLD clock is faulty	Fault0060
		Bit6	DCI is too high	Fault0070
		Bit5	Bst Hardware overcurrent fault	Fault0080
		Bit4	Steady-state GFCI failure	Fault0090
		Bit3	Relay failure	Fault0100
		Bit2	Bus high failure	Fault0110
		Bit1	Reserved	Fault0120
		Bit0	Bus and high fault	Fault0130